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GOOD HOPE TALES

By Paul Voudrach

(Preparation for publication and of summaries and analysis
by Ronald Cohen and Helgi Osterreich)

RÉSUMÉ

Cet ouvrage est le résultat de longues heures de travail ardu par un citoyen âgé de Fort Good Hope (T. N.-O.), M. Paul Voudrach. L'auteur principal de l'analyse a acheté le manuscrit de M. Voudrach en 1961 et, aidé de M$^{\text{me}}$ Osterreich, a commencé à le préparer pour la publication. Dans la préparation du manuscrit, nous nous sommes efforcés de conserver aussi fidèlement que possible la forme originale en employant l'Anglais, l'orthographe, la grammaire et la ponctuation de M. Voudrach. Afin d'aider le lecteur, nous avons composé un glossaire pour ces contes originaux et des résumés en anglais ordinaire pour rendre plus facile la compréhension de l'intrigue et des personnages. Même si la lecture des contes dans la version originale est quelque peu difficile au début, l'effort en vaut bien la peine, car les résumés ne peuvent donner qu'une idée très imparfaite de la richesse d'action et du style imagé qu'on trouve dans cette oeuvre.

Dans le chapitre final, les auteurs enchaînent avec une étude commencée en 1963 par Cohen et VanStone sur les histoires des Chipewyans pour tenter de découvrir un accroissement ou une diminution avec le temps de l'indépendance et de la dépendance. On admettait comme hypothèse, dans l'étude de 1963, que la période de contacts, surtout en ce qui a trait aux programmes de bien-être, a encouragé la dépendance au prix d'un affaiblissement du désir d'indépendance. On a maintenu l'hypothèse, mais le fait que les données contemporaines proviennent d'enfants pourrait signifier que cet accroissement de la dépendance est en fonction de l'âge et non pas des contacts culturels. On a soumis les contes de M. Voudrach à une analyse de ce genre, ce qui a confirmé les découvertes antérieures. En fait, il y a une ressemblance frappante entre l'oeuvre de M. Voudrach et celle de l'étude antérieure. Afin de faire ressortir ces similitudes, on a représenté sur un graphique toutes les données de l'étude précédente, de même que les mobiles qu'on trouve dans les histoires de M. Voudrach, ce qui montre qu'elles sont comparables.

Les annexes contiennent les principaux points de notre analyse du travail de M. Voudrach, avec des explications au sujet des méthodes employées, afin qu'on puisse reprendre cette étude si on le désire.

Quelle que soit la valeur des analyses scientifiques qui accompagnent ces histoires, ces dernières sont une partie importante et fascinante de notre héritage canadien et nous sommes tous reconnaissants à M. Voudrach de l'énergie et de la persévérance dont il a fait preuve en préservant ces contes pour les générations futures.

SUMMARY

This paper is the result of long hard hours of work by an elderly resident of Fort Good Hope, N.W.T., Mr. Paul Voudrach. The senior author of the analysis purchased the manuscript from Mr. Voudrach in 1961 and began readying it for publication with the help of Mrs. Osterreich. In preparing the manuscript we have tried to keep it as faithfully as possible to its original form, using Mr. Voudrach's own version of English, spelling, grammar, and punctuation. In order to aid the reader we have constructed a glossary for the original tales and have written summaries in standard English so that the plot and the characters can be more easily understood. Although reading the tales in the original is somewhat difficult at first, it is well worth the effort, since the summaries give very little idea of the richness of action and imagery contained in this material.

In the concluding section the authors have continued with a study initiated by Cohen and VanStone (1963) on Chipewyan stories in which an attempt was made to study an increase or decrease over time of self-sufficiency and dependency. It was hypothesized in the 1963 study that the contact period, especially that part containing welfare programs, has stimulated dependency at the expense of self-sufficiency motivations. The hypothesis was sustained, but the fact that the contemporary data came from children could mean that the increased dependency was a function of age, not culture contact. A similar analysis of Mr. Voudrach's tales corroborated the previous findings. Indeed, the correspondence between Mr. Voudrach's material and that of the previous study is very striking. To show this relationship, all the findings from the previous study are presented in a graph with the motivational scores from Mr. Voudrach's stories in order to demonstrate their comparability.

The appendices contain the raw scores from our analysis of Mr. Voudrach's stories with an explanation of the methods employed, so that the study can be replicated if so desired.

Whatever the value of the scientific analysis accompanying these stories may be, they are an important and fascinating part of the Canadian heritage, and we are all grateful to Mr. Voudrach for his energy and perseverance in having saved this material for future generations.

INTRODUCTION

Mr. Paul Voudrach, an elderly resident of Fort Good Hope, N.W.T., has invested many hard hours of work in the writing of this paper. In the summer of 1961, Janice Hurlbert and Hiroko Sue carried out a preliminary ethnographic study of Fort Good Hope, and during that time they obtained the original handwritten manuscript of Mr. Voudrach's stories. Several months later the senior author of this present version purchased the manuscript and with the help of Mrs. Osterreich began preparing it for publication.

A life history of Mr. Voudrach has been tape-recorded, and a copy is on file with the National Museum of Canada. Miss Sue describes Mr. Voudrach as a healthy man whose mental functioning is remarkable for a man of 72. He was born in Arctic Red River, a Loucheaux Indian settlement, but has lived for many years with the Hare Indians of Fort Good Hope. Both of these bands are Athapaskan, and they speak mutually intelligible dialects. In general there is very little that distinguishes them culturally. Mr. Voudrach is described by his neighbours as a very talkative man, but this should be seen against the well-known Athapaskan trait of taciturnity.

Miss Sue describes story-telling at Fort Good Hope as being rather variable in form. Stories may change with the teller's mood, the kind of audience, and the occasion. In regard to this latter factor, informants claim that the same story told at Christmas, Easter, or in summer or winter would be somewhat different. Our impression is that, although the themes and general plot elements remain the same or nearly so, the characters and setting may change with the occasion. Until further work in folklore analysis is carried out, it is impossible to make any clear assertions about the nature of variation in relation to mood and audience. Mr. Voudrach undoubtedly wrote these stories with a Euro-Canadian audience in mind, but without some deep understanding of his image of this audience and its differences from an Athapaskan audience one can say very little. When the manuscript was shown to younger adults in the community of Fort Good Hope, they claimed that a number of the old tales had been fused together.

In preparing the manuscript for publication, we have tried first of all to render it as faithfully as possible in its original form. Since Mr. Voudrach's handwriting is very consistent and quite legible, this has not been difficult. For the reader's convenience we have compiled a glossary to the original tales as they are annotated numerically in the text (*see* Appendix I). As a further aid we have constructed summaries of the tales in standard English, to be used either before or after the reader works with the original version. In the concluding section, we have analysed the tales and compared our work to that carried out previously by the senior author and Dr. J. W. VanStone in their analysis of Chipewyan folktales.

We should like to express our gratitude to the McGill Faculty of Graduate Studies and to the Department of Sociology and Anthropology at McGill University for providing the financial aid and other necessary facilities which have enabled us to prepare this manuscript and its analysis for publication. Finally we must express our gratitude to Mr. Paul Voudrach whose energy and perseverance have saved for future generations an important and fascinating part of the Canadian tradition.

CULTURAL CONTEXT

In order to place these stories within a cultural context it is necessary to summarize the main elements of traditional and contemporary community life in the area (cf. Cohen, 1962; Hurlbert, 1962). Fort Good Hope lies just eighteen miles from the Arctic Circle, south of the junction of the Hare and Mackenzie rivers. The area is composed for the most part of swamp and many small lakes and ponds. Vegetation is boreal subarctic, and the fauna is typical of the northwestern subarctic.

The Indians who speak an Athapaskan language are related in most respects to the Athapaskan Indians of the Mackenzie – Slave Lake drainage system. Traditionally, they moved about the area in small groups—hunting, gathering, and fishing in annual cycles. Several times a year the entire Hare Indian 'tribe' are said to gather together for ceremonial purposes. Smaller groups foregather at the fish camps on the Mackenzie in summer and for regular or sporadic hunts. Leadership on such occasions was confined to male sex only and was based on age, personal achievement as a hunter, and prognostication of successful access to local resources. Kinship was the basis for membership in both large and small groups, and each household joined larger groupings on the basis of wider kinship connections, personal relationships between male household heads, and other haphazard factors. In spring and summer most of the Hare were on the Mackenzie River, but in winter and late fall they broke up into small camp groups of not more than two or three family units which were spread throughout the bush. There were no family hunting territories.

Contacts began early in this area, the first Fort Good Hope having been built by Alexander Mackenzie in 1806. Throughout the early 19th century the Indians were progressively involved in the fur trade. They brought their furs to the river after the winter season and exchanged them for beads, blankets, knives, flints, axes, kettles, and so forth. Even at this early date some were hired by the traders as hunters and fishers for the post; many served as interpreters. In 1859 the Oblate Order built a Roman Catholic Mission at the Fort and began to convert the Hare, introducing education, baptism, and an annual ceremonial cycle from which emerged three important festivals—Christmas, Easter, and Assumption Day (August). The missionaries sent off a few pupils to the French school up-river at Fort Providence and later to Aklavik. In 1921 the Canadian Government signed a treaty with all the Mackenzie Indians. The Hare were designated as band No. 5, and, like the others, all Hare were given annually $5 each in perpetuity. The Hudson's Bay Company's monopoly on fur trading was abrogated at this time, and use was made of the Fort as a base of operations by a series of free traders. By the end of the 1930's fur prices had begun to rise considerably, and as a result almost all the Hare band built houses in the Fort, even though they might only live in these a short time each year. By the end of the 1940's with the boom over, the prices slumped and have never reached their former peak. The construction and maintenance of Norman Wells, established in the 1940's for the exploitation of oil, gave Good Hopers their first taste of wide scale wage labour. Wage labour expanded in the 1950's when DEW line construction and the building of the new town of Inuvik to the north of Good Hope gave many workers high-paying jobs.

The effects of this period can be seen in the work histories of all the Hare Indians. Very few of the adult males have not worked at wage labour at some time during their lives, and only a tiny minority say they would not take up wage labour if given the chance.

In terms of outside institutions represented in the Fort, there are now the Hudson's Bay Company Store, the Free Trader's Store, the Mission Station (Roman Catholic), a Wireless Station, a two-room schoolhouse, a Nursing Station, and an R.C.M. Police Constable and his 'Special' (Indian assistant). During the summer a Fire Ranger from Fort Smith lives in the town.

Today the community of Fort Good Hope has as its residential core the permanent and semipermanent Whites and the Indian wage employees. A few families subsist on government relief, and a few extra families come to the Fort for summer jobs. Although 52 of the 71 Indian families in the area own houses in the Fort, 50 to 60 per cent of these are out of the Fort at camp groups in all seasons. The entire band gathers at the Fort for the annual religious festivals (Christmas, Easter, and Assumption Day) and for Treaty Day (near Easter) and Sports Day (July 1). These festivals have definite socio-economic functions. Christmas brings everyone in to take part in the celebrations, to sell their fall catch of furs, and to change winter camps if they so desire. At Easter they come in, again to celebrate, to sell the winter catch of furs, and to break up into camp groups for the spring hunt of muskrat and beaver on the rivers. At Assumption Day, children are brought in to start school either in the Fort or in the residential school at Inuvik, and arrangements are begun for winter camps and for putting up fish for dog-feed.

The Whites of the community are all, except for the Free Trader (and even he is one to some extent), local representatives of larger bureaucratic organizations. They are at the structural margins of these organizations and must carry out the policies of their agencies on non-members, i.e., on the native population. Except for a very poorly organized community club, there is no traditional structure of social organization at the Fort. The Indians have their elected chief and counsellors, who are regarded (a) as intermediaries between the Indians and the White officials and (b) as lacking in authority. As one informant put it, "We don't like a bossy chief." The emerging community pattern of Fort Good Hope is thus one in which the community decisions are made on an *ad hoc* basis by the local White residents. The Indians are forced by the economics and traditional patterns of their adjustment to the local habitat to maintain a very low integration with the Fort and to continue their hunting, fishing, and trapping way of life. Although no intensive work has been carried out at the smaller settlement at Arctic Red River which is north of Fort Good Hope, it presumably has a very similar cultural background and contact experience.

Part I

GOOD HOPE TALES

Here the
Old day story
I going write
I a Louchou
From Arctic Red River

August fourth, 1960
Fort Good Hope
N.W.T.

Tale 1 (1,025 words)

THE ADVENTURES OF TWO BOYS

This is true story Been carry throu out ages and ages and generations and generations from binning the world this way going on one winter time. a man ster[1]* alone with his family out in the bush and the man he don't kill nothing and they starving Then man set fish hooke for jack fish and hard to catch fish for sport[2] his family. at the meantime his wife she cut wood everydays for his camp. one morning she cut wood againt. she found bear in the den and she light fire at the door of bear den to be choket with the smoke. then bear died and she take [it] out from the bear hole and she make big fire to be burn the hair out of bear. To be cleanset and when she cleanset she cut out in piece[3] and she hidet in the bear den [at the] back, and she change her tent over on the bear den. she don't wanted her husband be know that she kill the bear she will just only her and her children to be eat the bear meat and fat alone and hide from her poor husband who lining fish[4] all day long. not catch fish enough to sport his family. he might [catch] only one jack fish at day but her and her children they life[5] with bear meat and bear fat they life well but the man suffer with hunger. and women tell her children to[6] not tell your Father I was kill the bear she said too her children and when the man go too his hoke[7] in the morning them they eat bear meat and fat and she combet her children head then she oiled their hair with bear grease and tell them if you father tell you from where you hair greaset like that tell him mama she greaset our hair with willow juise. you going to answer him that. and poor man try hard for save his family from hunger. after many days spent[8] bear meat nearly spent. one night when they go to bed to sleep one man come to their door tell them brother I nearly die to starving. he say that man come at his door this is his own brother and that man with his family said to him Dear brother so am I too. what I going to do for your meal I have nothing to feed you myself just nearly the end of my life with starve said to his brother. Then this man come reply. brother I thod[9] that youself kill the bear. I pass your camp place I see bear head bone stand up on the stick how that you say you starve then the women ashame for herself and said I have some piece of bear fat yet. then they get up to take that bear fat. outside in my sled she said. then she go get that meat out in her sled and when she come in her house the husband well[10] get made with her and cut off her head. then kill her.

but the head of her life yet roll arund the fire with out stop. at meatime[11] the father of the family he give something needet for life to his two boys the same time he give blue stone and small piece of steel and twisted wire this three thing they[12] father give to them for doing the wonderful work with it. Then the two boys they go flee out far country from their mother head. Then the two boys go on. run. their mother head rolling after them and when they mother head near them to catch them they throw down on the ground the blue stone she become[13] big rough high mountain between they mother head and them. then they go far they can maket[14] the time[15] they mother head back behind the mountain. not body[16] know this head what she doing to pass the mountain[17] after long walk. This bloody head come fellow them again and just nearly catch up [to] them. then they throu down twisted piece of wire. she become big rough mountain again. then the two boy walk far they can. and after longtime again they mother head appear fellow them. when near them they through[18] again a piece of steel on the ground. become big rough mountain again between them and the head of they mother. Then again the two boy they walk how far they can go. now they headet the shore of the sea and when they arrive there they see sea gull on the shore of the sea set[19] they tell him big sea gull will you take us other side cross to the sea.[20] we flee from our mother head come after us. Then the big sea gull tell them come on my back to bring you both cross to the sea and the two boys they set down on his back and he fly away up to bring them cross the sea with them then when they landed with them. Then the boy said to big sea gull if you flight[21] back other side mother head come roling at the sea shore. She sure going to tell you bring me also cross the sea and take her on your back but you be throw down her at middle the sea to be swal up by the big whale then be perish for good they say this too the sea gull. then sea gull return back fly this side where he was before there already this head on the sea shore when the sea gull he landet and that women head talk yet she said too the sea gull Sea gull will you please bring me cross too. sea gull he did bring her head sea gull tell her come roll up on my back. Then sea gull fly cross again the sea with her head. But sea gull he did as the two boy tell him to doing middle the sea turn over with the head then drop down in the ocean among prey big fishes. then this women head her las[22] word say I will be divited among all the animal of the earth and the birds and after few minute the bird come out of the water and he fly up on the air.

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*See glossary for references.

Tale 2 (2,250 words)

THE OLD MAN AND THE BOY

then the two boy safe but not long safe. after well[23] the younger boy he mourned to much lonely and the older boy for comfort his brother he maket foot ball to play with and then they started to play foot ball. the two boy enjoy together. soon after that they hear some body sing loud far out on the sea coming to them and after well they see small boat one old man in come to them they fear it. and this old man landet on the chore[24] he is bad magigian man. soon landet the two boy ball wind carry in his boat and the boy they said too him grand father will you throw our ball on the land to us. but he said to them no if only one of you come in the boat to take his ball you be havet back he tell them. But the boy would not go in the boat they know he fool them. the boy still ask grand father throw our ball to us on the land. but old man still refuse to through their ball to them.

then he made with his two roe[25] a bridge from his boat and the older boy walk on half way on his bridge. and old bad heart throw the older boy in his boat and quick shove out with the boy. then the two brother both crie for each other in loud [voice]. but old man with out pitie he roe out far on the sea sing in loud and go rowing how much he can. Then the younger boy said to his brother my brother you be know that there to be wolf said land[26] continue cry and the older brother the same he cry. But this younger boy said there to be wolf this mean I be change in wolf for safe[27] his life that way to hunt his meat and if after long time his brother might searching to found him if he found wolf track this to be him. go after wolf till he see. Then he be change in to man to his brother. but this luck it is not happen to them.

now old man arrive home with the boy and leavet the boy in his boat and go home and this old man he got two Daughters. he tell to his two daughter well Daughter I been choice a beautiful boy for husband to you and the older girl go run down to the boat to see the boy but this boy been mourned much for his brother and with tears dry[28] [on] his face and he look ugley and the girl see she said he is not beautiful but look ugley I don't wanted him for husband. she said that. [and] come home. and the younger girl take towel and soap and comb and hair oil. she going down to the boat too and the boy still in the boat and the younger girl she go in the boat and she take the boy and washeted up his face and comb his head and after that she oilet his hair too. Then she tooket by the hand to go home together and the older girl see the boy cleanset and look good. she said to her younger sister both we be take for our husband. but younger girl said to her sister you been refuset to take him for husband but now not for you. it is my only. and he don't ster long with her. only shortime.

now he tell his wife I want maket arrow and old man hear. young man talk with his wife. he said Daughter what he say. the girl answer him he want to maket arrow. oh there out it is good stick for arrow he said and the young man go there found a place where the stick up on the air turn round. like a live. but this young man smart and take stick throw up among the flight[29] stick fall down how much he want the stick[30] for arrow then he come home with the stick already made for arrow.

then he tell his wife he want sharp bone for the end of arrow. then old man again say Daughter what he say. he want sharp bone for the end of arrows old man said there in this direction he go he will be found sharp bone for his arrows. then the young man go in that direction. he found a place where the sharp bone flight round up on the air[31] again young man take the stick throw up among the flight bone and hated[32] how much he want fall down. then comback home with his sharp bone.

Then young man again said to his wife I want sinew for tie feather on my arrows. old man again say Daughter what he say he said. the girl said he want sinew for his arrows. old man again said in that direction he go will be found sinew. young man went again in that direction he arrived a place where big ox stand up and he don't have nothing to kill with. no arm[33] yet. and stand there he see a mouse and he tell at that mouse mouse will you go up on the hind leg of that big ox and goin his ars. go right to his heart cut out with your teeth around his heart to kill him. if he fal down dead soon I cut open the body of ox to safe your life and doing what I tell you said the young man to the mouse. and the mouse went to big ox she going up on the hind leg and went in his ars soon after that big ox fal down on the ground Dead. now man quick run to dead ox and take out his knive cut open his beley and look for mouse he found him life[34] yet. Then saved mouse life and mouse he have ox blood on his back into this Day we say mouse have red back. now the man he take sinew out of ox meat. Then again he comback home with sinew for his arrows.

now young man tell his wife again I needed feather for my arrows. old man again say Daughter what he say. the girl said to old man he want feather for his arrows. and old man say again way up on the rockie hill a place to take feather for arrow. young man went up rockie hill for feather but way up he found big hawk nest who they eat man flesh and hunt man Everyday both they[35] away and young man went up on the big tree where the nest on the top. and there it is two young hawk in their nest. and man tell them who of you going to bring the report against me he tell them. and the older one say I will tell my father and mother. man hide here under our nest but the younger one say to the man not me I will not say nothing to my father and mother concerning you this is younger hawk promis to the man and the man take off one kill him through him down the hill been destroy. that one say[36] I will tell my father and mother you here[37] and after that man question that one life young hawk what kind of weather come when they come to their nest you father and mother he said to man and the young hawk said when my father come big north wind storm with snow and when my mother come big south wind and rain. Then man put in theyr water male water he throw little piece of blue sharp stone and in female water he throw small sharp bone. Then man tell the young hawk if you mother comback ask you where you brother tell her he said to hut[38] and flight down the rocky hill for take fresh air you going to say that to you mother. Then man hide himself under the tree. Soon after big south wind and havey rain started then hawk mother comback flight down on her nest with half the body of man on her nest. she been eat half that body. [as] soon [as] she landet say where you brother young hawk answer her he was said to hut in the nest and he flight down the hill to cool air. Then say from where smell man but little one answer her that one you bring here half the man body smell. she thirsty much and drink water fast and swole[39] that sharp bone and died off from her nest not long after big north wind start with snowy storm. Then male comback in his nest with half of man body. [as] soon [as] flight down in his nest he tell his young from where small man but young hawk said to his father that half man body you bring here it is man and smell man. no other man here. then male hawk again say to his young where your brother and mother and young hawk answer him my brother he said too warm I go flight down the hill to cool up myself. he was said that and mother flight down the hill to look for him. and they got a par[40] water and this hawk he been eat to much and thirsty too. and start drink his water he swole that sharp blue stone man throw in his water and he died too. Then man come out from under the tree where was hided himself and went up to the nest where young hawk alone now. and man cut out his glaw[41] short and his peak[42] cut short too and after that man went to where mouse been kill ox for him and he take some soft meat fat and beef heart. with that he comback to young hawk nest. man said to small hawk eat this meat I bring you don't eat any more man flesh he tell him. then man he hunt again back in the bush for barren squerrel[43] and he kill one and he bring to the young hawk. then man say again to young hawk This is for you food for all the day of you life know that and don't eat man flesh again. no more [as] long [as] the earth lasting and man he throw away all man flesh out of his nest. then man said to young hawk again don't eat man flesh again·you be hunt barren squerrel all the day of you life [as] long [as] the land lasting this is only meat you be use for food. now man cut off the wing of big hawk for the use of his arrows and he go home bring feather. and now he maket his bow and arrow and short time he finish

and now well armed with arrow now go on the side where his brother leave sparated.[44] walk long found wolf track fellow that wolf track and soon wolf found moose track and this wolf he go after moose track and soon the moose run away from wolf and wolf run after moose to catch up. but soon they headed both the lake and they go in the water to cross the lake. but that lake bad prey big fish in the lake and both he swoll up by the bad prey fish and man fellow their track he headed[45] the lake too and he they both went in the water and man him walk around the lake by land to be found where they landed both but not track not sign come out from the water. look like both purishet.

then the man comback from where he started to walk and he set there for well. The King fisher fly around the chore of the lake like in our days and man talk to that bird he tell him King fisher will you flight over on the lake. if that prey fish he sowoll you up you chew up his heart and kill him if you done this service to me I oinet[46] you a beautiful bird when he die he going to be kick[47] he be come on the land his dead body and soon I be cut out his stomack to save your life and the King fisher obei the man what he tell him he flight over where the bad mischieve animal under water and he swall up him. soon after that big bad fish kicket and come up on chore died there on the land. soon man cut out the stomack of that prey fish to save his King fisher bird all wate[48] his feather from top of head to the end of his body. now man take off[49] his bird king fisher and he cleanset him and oineted him in different coulor to be a beautiful bird among the birds. Then man tell to King fisher again now I see you before me go watch for fish set down on that bendet tree over water to try catch fish and King fisher do what the man tell him. soon he see fish come up on the top of water and flight down on the water and he catch fish and man tell him again you King fisher fishing like that way all long in your life[50] [as] long [as] the earth lasting doing that for your life. now he examine in the prey fish beley look for his brother bone but nothing in his stomack only two piece of moose horn his found in the fish cot.[51] Then he left there to go north side but much sadenet to loose his brother live.

Tale 3 (1,820 words)

HASKITJACK

but now on his way to the north now he sing loud voice to be hear by bad mischieve animal he headed lake and he walk on the chore of the lake still he sing loud. beaver come swim to him and in thos days begining early day animal talk like man. and he see beaver he say to the beaver brother where you go and beaver answer him I come to make war against most powerful man haskitjack. mighty man now near him man answer him with what you come fight me brother beaver say with this he say show his sharp long teeth full in his mouth. beaver tell him with This my sharp teeth I going fight you he said to the man. and man tell him brother it is true you mighty than me he said to the beaver but Im scare to your eyes[52] close up your eyes please and come near me you head put up on the chore to see your teeth.[53] before you fight me with [them] and proud beaver done what the man tell him. he come landed on chore put his head near the man then beaver close his eyes and man he have axe oneside of him hide.[54] man take his ax and with the back side of his ax haded[55] how much he can to brake his teeth in his mouth and broke off all his teeth but two both side middle in his mouth left then two teeth up in his mouth and down middle two left on his jaw. then beaver now loose all his teeth into this days now wounded beaver plunget in water to flee away from man. no more beaver think to attack man again into our days. he collected[56] him for ever.

Then go on his way to north again and again start sing loud voice go on now a proud linx come to him and man tell him Brother where you go and linx answer him come war against powerful haskitjack and man answer him with what you come fight with me and proud linx whip out his tail among the tree and that tree he brake down like nothing. Then man say again to the linx it is true brother you a mighty[57] than am I. sure you kill me. But I will[58] see your tail before we start to fight. put your tail on this bendet tree to be I examined and Im scare to you eyes close your eyes till I see your tail. Then linx done as man tell him. and man take his axe and cut off his tail short and linx been hurt in back bone much and he forget to fight with mighty man haskitjack and flee away and nomore comback to fight with man. for ever now and they say his rest bad mischieve animal chase out off from this country to south affrica for his vanges[59] to loosed his brother by the bad animal

now man go continue to north side his way after long walk he headed lake and there on the chore all the games[60] of the world seted and games see him all they say our brother haskitjack come to us many time they said that words and games they said to the man what you carry on your back brother they all said and man answer them I carry songs and games they answer oh our brother carry the sing the sing the sing and all the game they appy to hear the man carry the song. now man arrive among the games and he set down among them. and man sadenet much say nothing then games question him they tell him Brother why you so sad to not say nothing. and man answer them because I wish your game dancing close eyes.[61] and games all yel oh our brother want dancing close eyes we do that to close eyes dancing we built dancing house they say. and not like our house. this way they start to building house for dance from the chore of lake. Then they begin to dance close up eyes. Then the man set behind them to look [at] them. now man start to catch by the neck and kill them and he throw away behind him and after little well one the gees he catch by the neck but this gees kick with his wing and nock his parnerd[62] and gees open eyes little and he see man twisted one gees neck and throw away behind him he see him and that gees yele say hah haskitjack destroy us know that and all the game flee out of they dancing house. but the room too small for them to go out in once and to tight togethar and they step on the feet of small hen. been hurt badley and yele hanh titity chet caye. into this day.

Then after this trouble over man take his goose and make fire to cleansed his goose and when he finish he put his goose in the ground to be protected from sun spoil. but he appear[63] out of the ground the foot of gees to be remember where they are. now he take a walk around on the chore of the lake. when he maket[64] the end of the lake there he see a fox but this fox show he got head ache and tied his head and walk with the stick make himself weak to stand. but this red fox just he fool man to make himself sick. his not head ache man think fox his sick he tell to the fox. Fox I got other end of the lake many goose I cleanset I hidet in the ground just his foot come out from the ground. and we go both one side to the lake you go otherside around the lake and myself go this side to the lake we going to run how much we can to maket that place where my goose hide in the ground. and fox answer yes. now they started run oneside to other side of the lake. but wise fox when he disappear from the eyes of man he throw he stick in his hand and run how fast he can to maket that place before man. and he maket alright before man there where the goose been hidet. and fox started take out all the gees and he chew off gees foots and he put back where was before come out From the ground like the same when man puted in he carry all in the bush where man will not found anymore. then fox go some place in the bush to waiting man comback his place. now man come his place. he see look like nothing wrong. now after well fox come but again make himself head ache and walk with the stick in the hand to stand up and come slowly. and man tell him well fox I comback before you my camp and I bided[65] you out fox he don't say nothing. he set there look like himself head ache and man make fire for coock goose for eat together with fox. now man take out one the feet of gees out of the ground no gees next one he take the same not goose but just the feet last all the foots of gees take out from the ground nothing left but only feets and man he don't know what happen with his gees under the ground. but this is bad smart fox he steal away before man comback his place.

Then man go again his way to the north. now on his way he see little birds playing with their eyes they take off their eyes [throw] up in air and they stand up still an comback in their eyes place then they take off their eyes again and stand up to be their eyes comback in their place and man tell them birds I will do the same yours doing and man take off his eyes throw up in the air comback his eyes in his place first and second time he take off his eyes he throw up in the air comback in his eyes place again. now third time he take off his eyes and he throw again up in the air and he stand up in the air his face to be his eyes comback[66] again in his eyes place but this time his eyes not comback in his place for longtime he waiting for his eyes not comback anymore. this time he loose his eyes for good birds take away and they flight away with man eyes and now man suffer without eyes but still he go on without sight. But the time lose his ey.es bloody fox he suffer him[67] many time with out eyes but he go altime justisame. Then the fox he go before him and make the stick stand up over against his face to hurt his eyes place and man haded the stick in his eyes hole then man hurt his wound badly. this fox know that man was loosed his eyes and he moked to[68] the man. fox he do that with his stick many time he hurt man like that. but after days diet[69] to suffer so much. he headed a small tree he catch up with his hand and he twisted and the broose[70] gum come out from the tree he maded his new eyes with that. Then he recover his sight the same before but strange eyes.

now go again north side. But now games scare to him[71] he see the games try to go near but games they flight away from him and he have not chance to kill one even for his feed and hungry. now he see moose and kill moose. he got lots meat. he cut off all the meat and lots fat meat. birds wisketjack[72] come close to him and man tell them wisketjack I have lost fat but I won't give you nothing of this fat meat he tell birds. now he cut all his meat and he throw meat all over on the ground all the fat too on ground. now he feel to be shade out[73] and he go to two tree near each other and he went between that tree and man said to the tree Tree come tiedet[74] me both side of me to be I shade out at his reguist two tree come move both side tiede. then after go out he tell the tree Tree will remove out to loose me now I finish to go out from this place But nothing done at his commad but this tree he well tiede both side of him just like catch in the trapp can not move out of this for longtime. at that time wisketjacks they got good time to eat all that fat meat. many together come flights down on meat and before man face they spoil all his good meat and fat till remain only bone last and now after the ruin of his meat by birds tree remove out from his both side then he come out from between the tree.

Tale 4 (175 words)

THE MAN AND THE FOX

now man go on his way to the north. again and on his way he see the games they begin to scare to them but games remember once that man kill lots out of them and they no more friend with him and he got no chance to kill for his sport.[75] and now he see fox sleep on prerye[76] where lots hay. and man he remember what evil he done to him. the time pass then man think to burn this fox and lighted hay. but this fox he smart than man yet. soon fox wake up run away from fire and the man not know that he think fox was burn up and after the hay was burn up finish man walk on where was burn out and this man look for fox burn up if there be his bone but nothing found. man he smart but sometime he cresey[77] too. now he say aha aha fox you been burn up even your bone burn up. he say alone say to himself that.

Tale 5 (2,240 words)

ATTANTUDING'S ADVENTURE

now go on altime to the north now after long travel he headed the river and there is needed canoe but he don't know how to maket canoe. he have not tools to work with and there is rough rapids and up beginning rapids he cut off broose back[78] and he throw on the water. and him he run cross the portage fast he can to maket before the broose back drive down pass the rapids. there he been watch for long time for broose Back never floght down pass the rapids. been sink down under the water for good. man been waiting for longtime down the rapids and he don't see nothing then he comback again on the portage up where he come from. this time he throw bortch back[79] on the water and again return back cross the portage down the end of rapids to watch for his bortch back. now that one floght[80] up on the water. pass the rapids. now. he stop there for maket canoe in dream. he go to bed to sleep the first sleep after well he wake up. there bortch back enough for canoe. then he light[81] down again back sleep and after well he wake up again there is all strip wanting for canoe and the top and bottom frames all there. and now go to bed to sleep again and he sleep after well he wake up again he see the strips and the frames all planet[82] and painted in red ashes. then he sleep again back for well wake up again he see his canoe was placed to be sewing up then again he sleep back and after well he wake up again then he see his canoe sewet up finishedet now he get up to put on the water but lots water come in from sewing place then he put back again on the chore. then take long stick and he moved up to the sky and felt down all the broose gum he wanted for his canoe now comback to sleep again and he sleep for well. and he wake up again and he see his canoe was gumeted up. now we changet his name attanttuding. this mean with canoe explorrer through all kind of strange men and animal he passed and long way paddle mean now he maket paddle. and when he finished his paddle and going down in the river in the canoe for good never comback. just go on altime down the river.

But he have always some trouble on his way. now he travel long way with canoe he get tired and stop some place on the chore and went up the hill till up the rocky top. There he meeded[83] the crow and the crow said to him well boy we set here on the top of the hill and you look for lews[84] on my head. then man seted right near the rough rocky hill for him to look among his hair on his head and he put his head on man kneegh. then crow say again too man boy don't throw me down the hill if you throw me down the hill I disappear people out of you way to never see any body on you way. this he tell to the man. but inaway[85] after well man pushed crow down the hill and poor crow roll down on the rough rockey hill tur out in piece[86] and crow Dead man going down to his canoe pool[87] out continue his way down the river. now after maket little way he hear big happy noise of people play but when he arrive there people sign but not body.[88] Then he go on without stop. Then after little long way he maket he hear people play big noice. but when he arrive there not body. but see only man sign. Then he remember crow what he tell him. Then man return back to where he kill crow and he landed there went up rocky hill where was Dead crow. now he take dead crow altogether in his blanket all piece of crow flesh. one his small glaw he lost he don't founded Then he carry down the hill on flat country. he put on the ground and now he seted on the top and started to boop[89] on for longtime he been boop on the crow. then man tell crow how it is of you and crow answer Im not realy cure. then man again he boop on for well. and after well man ask again how you feel crow. crow answer I perfect cure but one my small glaw meset.[90] man tell him that one I never founded it is lost. now he discover crow out of his blanket.

Then crow said take me in your canoe I going down with you for well. then they go to the canoe both they go in the canoe to going down on the river now they arrive at the place where he hear the people play. big noice place. and crow tell man stop here and they landed. there is big rabbit skin blanket cover one place and crow tell to the man boy take off this blanket. and man take off blanket. there it is big loge[91] on the ground. and tell the man again boy hade[92] This loge belley and man he did as crow tell him and he haded big two loge belley men with their arrow on they back run out from the mouth of loge other one women come out from the mouth of loge with little bag in the hand that bag it is all what they needed for work with is in there. now they going down to next camp where man was hear big noise of people play but he been not seen people that place. Crow again say to the man boy landed here go on the chore and man landed. they go on the chore. there is big rabbit skin blanket cover upon the earth. again crow tell the man take off this blanket and man take of this blanket there is two big loge liegh[93] on the ground now crow say again to the man. boy hade this two loge on the belley with you arrow and man done that the same before on the loge mouth men run out with they pack their arrow on the back they bow in the hand. now other loge women run out from his mouth with their small bag in the hand. the same before what they need for work that in the bag. but he don't ster with them but haskitjacke he going down more far north altime.

now he on his way and after long trip with canoe he pass around the point he see old man set down on his dam this old man it is a giant here his spear for fish stage[94] watch for fish to be come down in his dam. man when he see old man he comback behind the point and he landed there on the chore put his canoe up on dry land then plunged in the water change into big jack fish and go where old man set to watch for fish. soon old man see big jack fish come down to him without stop come on his dam. and old man he haded hardley[95] right on his back but the big jack fish give one big kick twisted he spear broke off the sharp end go away with that into deep water. now man go to his canoe he return to man again where his canoe. and he take off that sharp end of spear. he go away with it is on his backside of his neck and now that sharp end of spear he take off and he hided that sharp end of spear between join of end his canoe front now he put back his canoe in water going down to old man and old man see the canoe come too him. his start to sing say this you who a man brok off my spear end go away with old man with out stop he repeadet the same words in sing. but man landed there he tell him Im not who broke off your spear but I come down stranger here I know not what you mean grand father. but old man with out sized[96] in sing repeadet the same words many time and man sleepey he light down there to sleep and been sleep for well and when he wake up he see his canoe all cut out by old man for till he found his spear sharp end. he found alright. but now man his canoe ruined once he been made canoe in magic but nomore now any man upon the earth made canoe in magic again for ever. then man then he start to repairing his canoe with hand. take few days to repairing his canoe. he fix like before but lots it work to placed all the piece old man was cut out. then he put together and after he finish he go in the bush to take broose tree roots from under the ground some long narrow like line he take some of them he bring at his camp then he spladet[97] in two this narrow roots and after he cleanset the black back off and they look clean white like bapish[98] then man sewing his canoe bortch back with tree roots. and after he finish sew he take gum from tree and he gumed all his canoe up to end now he go on again far north. but his canoe not like before she lick[99] little water always in his canoe can [not] fix better.

now on the river which we going to be call Mackenzie river one day become and now attatucking he arrive at norman we be call one day become and there he landed and old man seter there look like receive man with job. but only deceive man. this is greaseley bear make himself man for fool man to be kill someway. and that old man with joy he tell stories to man all day long. The old man and now old man tell the man oh Dear grand son here it is the place where greaseley bear come out from the bush on the chore. now nearly time she come out from in the bush. just ready in hand your bow and your arrows. But grand son I tell you she don't die with sharp arrow. only you take bortch back off and there between the back red soft on the bortch this thing only hurt her to kill other way won't die take that red fat on the bortch and sharp out with your knive and put end of your arrow. this is only thing to kill her never shot with arrow sharp. won't hurt her. this words old [man] repeaded often all day to man. just he hear only and not answer him and now nearley sunset. now old man watch than man for his bear and now bear come out from in the bush on chore. and she come over to them and old man say Dear grand son go on before her on her way hide yourself to be shot with that arrow you made end red fat bortch and the man go hide himself where to be bear going to pass. but the man he change his arrow sharp on his bow ready to shot his arrow. but this arrow he put on his bow it is the best arrow among his arrows end the sharp blue stone. and the bear pass close before him. just he haded right in the heart then she bear say father man he haded me with sharp arrow in heart and he kill me. then old man change in big bear crawling and run after the man thinking he going to kill the man. but man run away from him fast he can to save his life and man run for long way he get tired and there he headed lake and he change in somall[100] jack fish and he jump in the lake. then old bear start to drink water till he empty the lake. he drink all alright. now after he was drink to much water could not much to move. then he light down right there and the chore of the lake on his back side down on the ground and his beley up side. at the meantime man still under the grass the place where bear was drink all the water. there is little water birds they eat little thing among wete grass near the man and the man tell the bird water bird will you fly over to the bear and you stop on his beley near his hind leg and where the thin skin place. you take off his hair if he crole[101] to you be tell him grandfather I don't hurt you But I want take off you hair for my little children they cold and going warm up them with you hair for this reason I take off you hair. Then he let you doing take his hair off but when you clean off well his hair out of his beley and haded hardley to be pierced his beley then flight away fast from him to not hurt you and now little water bird he done as the man tell him and pierced bear beley and water come out little from his beley but last water brok big hole in his beley. open like cut with knife and bear dead. the water open his beley right Dead.

Tale 6 (920 words)

A FATHER AVENGES HIS SON

now they don't say when he married but he dweling some years there at norman. his wife bor to him a boy in winter time they living in the tent now his wife have baby boy. just borne and they don't sleep together in they room they got fire middle the room and up a hole through the tent for smoke go out there. then he sleep this side to the fire and other side his wife sleep with the young child just borne now. and man sometime in the night man wake up he hear baby cry much and man call his wife many time but not answer him. then man take long stick to push his wife to wake up her but there nothing only blanket touchet with stick then man get up light fire and when the fire light up he see his wife go on only poor new borne baby remain there alone man take light wood and go outside around his tent here big giants they come take away his wife track he see. then man loosed his wife.

just they remain orphan with his little baby boy and man take much care for save the life of his little child. make boil the animal bone for make good rich gravey out of fat animal bone. then he feed him with that rich gravey. now when in day time he go hunt for their living leave the child alone but he seted up hammock for him to ster in when he go away for hunt or visit his rabbits snares. one morning he go again to visit his rabbits snares when he come home near his tent there a marten jump out from the hammock run away where was the baby and man tell the marten bad marten what you do with my baby you jump out from him and run away. but marten kindley answer him I don't hurt him but I hear the baby cry to much and go to him to suck my tongue. for this reason marten he have poor tongue into this day we say that it is true marten he have poor thin black tongue this because baby sucket his tongue to show into our day was sucket by men child.

and now child grow up little big boy able to do something his father he got rabbits snare line out some place in the bush. he visit every day for rabbits. and the boy ask his father to visit rabbit snare. but his father will not let go the boy alone. but the boy many time he ask his father to visit rabbits snare alone. Even he cry for it then his father get tired to hear the boy. Then his father say yes you go but there on oneside of my way the giant living. they offer roasded young beaver for fool me but I never notice to them know that pass there with out stop I pass there do the same his father tell him. and now the boy go alone to visit rabbits snares. the day go on and the boy not come yet. now his father go look in his way but there not boy he go on and now he leaved his rabbits snare road and he go on the track of giants and when he arrive at they camp already they been eat up the boy and the boy head bone they but on the top of the stick and made stand up the stick but the giants they not home.

man he fellow their track and now the giants they been cut out beaver house open big hole on the top of beaver lorge and they go all in under the ice to search for beaver hole and now the man hite himself near they camp under the tree. not long after two giants come out from the water and well cold for them. they come to their fire and they warm up themself near the fire and man shot one giant right in the heart with his sharp arry and when he haded him this giant not know what happen to him. he get mad with his partner and he say why you burn me so. and the two giants they start to fight one against other at the meantime man he shot his arrow right in their heart both been kill.

and man run down to beaver lorge there is one just in time to come out from the water. man get there and giant he have line in hand. he see a man stand up here on the top of the hole he say here take this line out up there. and giant he have pouch he keep in that pouch little piece of steel and blue stone for make fire. and man he throw that pouch in the water but this is needed thing for live and the giant he don't wanted loose that and comback down in the water for it in the meantime man take out all the beaver tied together on the line and he throw stob[102] roots [and] froze mod[103] felt[104] up the hole tied to not come out to be died for good but they say giant he got no sence[105] and cresey altogether. then after he could not come out and cold for him start to make fire under water. but not he knock his steel and blue stone one against other for fire but not chance. then his Dead too. now this three giants was eat his wife and his son they all destroy.

Tale 7 (2,050 words)

ATTANTUDING AND THE GIANT

now soon spring come and ice broke down in the river. man going down again far north on the river with his canoe. he pass rapids san souve[106] there again other giant living with his wife. man he see some body camp and he landed there and he go to the camp. but the giant his not there but only his wife and she receive man good. he been ster there for well. then he go away before he leave the giant women she enointed man with her dye. then man go in his canoe and go on again down the river. not long he meed the giant come home in his canoe see man he pass by him and giant said to the man smel your grand mother dye from you. but man answer him I never see my grand mother how I smel grand mother dye and giant again said to him sure that you grand mother dye smel from you. but man answer him again no. I never see my grand mother to be I smel her dye not so. what you say it is not true man say. but the giant say sure you smel you grand mother dye from you and man already far way from him down. then the giant go up to his camp. and now man not scare to the giant just go slowley down the river. now he hear giant get mad with his wife. he fought his wife and his wife cry and yale loud. man he hear him. but man going down slowley with out fear. man he know giant will be come behind after well. and now he landed there someplace on the chore to waiting for giant but this giant when he get home made with his wife because she was enointed man with her dye. Then the giant kill his wife for good.

then after that he going down to search for man. but man still waiting for him. and now man see far up giant come down in his canoe and then man went up on the tree banted[107] over the water and set up middle the tree. now the giant coming to him close to chore he might look for man track. he come so close to chore and now the giant pass under banted tree over the water they say the giant criezy altogether. he pass under the tree. he see man set on the tree under water and he take his axe hade man in the water but when he stop chap[108] man in the water he look down in there yet down through the water still man set on the tree in the water and again chop man in the water with his axe. but stop to chop under the water there under the water man set on the tree yet he see clearley it is a man. but this is man set on the tree on the top of him. but him he think it is under the water is a man. but this is only man shawdow appear in the water. him he think it is a man. but now man throw down the stick on his head he look up here man set on the tree on the top of him. he go landed on the chore want going up on the tree. and the man tell him they don't take me like that. just only they take me with the wood long handle fork. then take his axe and go in the bush for cut the fork for take down man with the fork. and before he leave the man up on the tree he shade[109] there near the tree. and said to his shade my shade watch man to not come down till I be back now crezie giant go in the bush to get his fork. the time away man he come down from the tree. go some place in the bush. and the giant comback with his fork man go on and nothing left the giant get made with his shade and tell his shade why you don't lesson to me and hade his shade with the stick man say always talk alone like somebody with. man in the meantime going down continue his way on the river and now man reachet rampard.

up the rampard he landed on the Iland then hide his canoe in the bush and taket out his cloths from him and go to the soft mod and he roll in the mod till cover up from the top of his head to his body end. just only mod on him all over his body. he know the giant it is crezy. now he stand up someplace on the chore to be see by the giant. when the giant he come behind him. now the giant come too. he see man stand up on the chore. Then he landed there and go to the man stand but when he come near the man look only mod. and the giant he have his axe in the hand but he don't hade man just see like stob or root. and the giant say with himself what it is look like human but the sametime just only mod now he push out but not move at all. and giant he take his axe and go away few distance he run back to the man with his axe up straitched his arm up to be hade man. but he don't haded just for make scare man. but man not move at all. few defent[110] time giant done the same too man with his axe to make moved man but not

and now man run away from him fast. how much he can and the giant run after man too. the giant think he going to catch man but not chance for him to catched man run to fast for him. they run around the Iland few defent time and now the giant he get tired to run so much and he set snare with his belt for man so much crezy giant. never catch man in snare. now the man fart at head[111] of giant. now man arrive at his snare he see giant set snare for him. but this smart man not go in snare. and they say the giant he use his blanket for canoe. and man take giant blanket he throw in his snare and man he throw that blanket down in the water. blanket sung[112] down the water and now man hide himself. some place there to see what the giant he going to do. and now the giant comback at his snare place and he see something catch in his snare. then the giant happy to see something catch in his snare. he think only he catch man in his snare and without see he stop to make fire what was in his snare. he put wood together for fire. then after that he take all the sticks needed for coock. he think take togethere he always talk with himself. he say This stick for arm this for leg and this stick for cipp[113] this stick for heart and this stick for backbone and this stick for head. now he light fire and going down to his snare to pull in to him what was in the snare. but this is not man but his blanket the same time his canoe too now giant nothing to eat he well displeaset but see nothing what going to do.

man now not show himself to him but always near close to him to watch him what he going to be do. and now the giant he don't eat for long time and he hungry. he hunt swans and he kill few of swans and he clean the feather out and he make fire. he fix good the swans for coocking. and now he coock he well coocked his swan he feel heavy sleep he can [not] endure that sleepy and say with himself oh I sleepy to much I can not endure this heavy sleep better I go to bed for well. Then he go to bed and sleep. now the man come silently to him and take all the roasded swans out for himself and put the moss the place of swans. now man go away with his swan and hide some place to watch giant what he going to do when awaken. but soon giant he get up and first he look for his swan. but nothing left only moss the place of swan then giant say again with himself what happen to my swans but only the piece of moss the place of swan and what happen to my swant.

Then over the rampard chore he kill bear now the giant he glad to kill the bear well hungry. how he take wood together for fire and again do like before he take long norrow stick for cook with before fire giant talk with himself again say this stick head this two stick for two arms this two stick for hind leg this two stick for two rib and this for back bone. now every ready for coock but he don't cut out his bear yet and man send him strong heavy sleep again. and now the giant he feel sleepy he can't endure this sleep and the giant say with himself again oh I sleepy to much. better for me to sleep for short time. then he light down sleep. at the meantime man came again to his bear and steal away and he put bear place drive wood[114] the roots on. now the giant wake up from his sleep the first thing he look for bear it is go on and only drivewood the big root on is there. and giant again say to himself what that in the place of bear only root left there is not bear.

now the giant he don't eat for many days and hungry he can't endure this hungry. and again talk with himself say this place it is sor[115] place this place it is sor place. and he put move his hand all over on his body and now he put down his hand over one side to his hind leg and he say this place is not sor place and he take his knife he cut off his flesh and he coocket and now he chapet[116] that flesh on the stone. and after that when he finish to chap out he put in his grease. but now on meantime rat swiming close to the chore singing say I durt[117] water with mod on my feet this only thing I do and the giant hear the rat and he tell the rat rat come to me for you going freeze this grease for me in cold water before I eat. and the rat go swim to the chore and the giant he gived too the rat to freeze for him and now rat pull out to freeze his grease for him. but always that man is near him to watch him and now rat going little far with giant grease. and man tell to the rat rat throw that grease in deep water and you comback to him tell him I los your grease by accident. then rat he done as man tell him. and now rat comback to the giant he tell him los his grease by accident.

then again giant nothing to eat he don't know what going to do. and now he fugure out to go for on other country. he stand up for well and well mad for his suffering. and he started to sing and happen to say big animal he say that in singing this words he repeaded in many time in singing. and he take the end of small hay lake[118] like the stick in his hand and he go away with he singing the same words he repeaded what happen to big animal. he sorry to go out for ever from this country to another country. he go to the right side of Mackenzie river to the north and haulled that end of the lake in his hand like line. and the lake become long narrow lake. this lake now found about 35 miles below Good hope. this lake indian call draah ttarvor duch. white people call that lake andrew lake. and this lake it is fish lake now fish in that lake. now the giant away for good to never comback any more. addhattuuckeng done this once again. chase out bad giant from this country in to rusian they say that giant go away the same day evening seeing his fire cross the sea.

Tale 8

(540 words)

THE MAN AND THE SHE-OTTER

and now man he continue his way down the river too with his canoe. now after few day journey he pass point [of] sparetion[119] there is a camp he landed there. but this not human camp. but this it is the camp of she otter and mouse and man he go in their camp. set down the side of mouse room and she otter receive man with great kindness. soon she give something to eat in small basket meat pul[120] well fix but in the eyes of man is not good. and mouse say silentley dintgitsowdhahin he say without stop this mean this is man flesh mouse silentley say this words say this is human flesh this is human flesh this is human flesh. mouse say that with size not[121] and now man say I'm thirst she otter take basket cup quick and take water from Mackenzie river and she bring to man. but man tell her I'm not drink big river water. only I drink small creik running water. now she otter comback up river shore for running water from the creik. but man tell to her only I drink far off creik water. and she otter went far up river for runing water and after she go far up river mouse give him wild carrots pillet[122] well meexed with fish cot[123] fat oil good to eat that for man. and that food man he been eat. but other food man flesh he throw away. and this is the place this side up to Aklavik where lots lake and between the lake alkin of creik this side and that side. man he go'in that place with canoe to be not found by she otter and man go far how much he can for loose himself from she otter.

and now after long paddle he go tired on his long journey. and he landed for camp this is in telta.[124] and now he make fire and go bed he was sleep for longtime he wake up and he get up. see other side cross his fire place she otter sleep like our women show herself. sleep on her back up her belley for deceive man she do that. but man it is wise he cut long narrow willow and make willow end sharp with the knife and he push into her right to the heart now she otter died and when she dead from her hole came out mink and man talk[125] black goal[126] put on the mink get black. now next wesel come run out from her body. but come out fast for man and he have time to put goal on just time for him to throw little piece of goal. and he haded the end of his tail with black goal. and now we see into this [day] that black mark end of wesel tail. this is happen to wesel at that time and mink become black with the goal that from fire. this two animal come from she otter. this two animal in her when she change into women man they think it is women and will do something to that women and that two animal in her they kill man for her and she eat man flesh that bad she otter.

Tale 9 (2,135 words)

GREAT HEAVEN FIGHTS THE GIANT

and now they said he married two women one they call morning women and other they call evening women. This is a mystery woman to us. and now they ster some place there. fall come he went hunt down the mountain side. and now there on the rocky hill he found porcupine den there he stop stand and man seeing big dark thing come to him this time man he never fear nothing but he scare to see this big dark thing come to him he hid himself in the den of porcupine. and that darkness he come to him stop over where he hid. and this is a more more big than the giant we call that big man great heaven. and now this big man tell to the man grand son come out to me I am peaceful man I never hurt anybody but man he don't wanted come out to him. he think he deceive him. then big heaven again say to the man if you don't wanted come out I barr[127] you with your grand mother tatheow mean in louchou tongue the stone for fix animal skin dant [128] out but still man will not come out to him. then he said to the man now I put the stone to barr you. and he put big stone over against the mouth of the hole where man in and now great heaven say to man. grandson push out for if you can move out this stone to come out yourself from this place and try he tell him. and now man push out with all his strength but not move the stone at all. and man he prevail nothing and tell great heaven grand father will you take out please I go out to you. and great heaven take out stone back and man this time he go out to him. but it is true he is peaceful man.

but without say nothing nor for why he take man like kid put him on his back under his coat. and go on where his go and now Evening come they camp. next morning they rises. they go again. and he put man on his back again under his coat like a kid and go on his journey. now sometime in the day big heaven tell the man grand son here at the front of us two rabbets. and man he see one side of his head he see two moose. this great heaven so big man he call moose rabbet. and both he kill with his arrow. just one shot each one with his arrow. Then he take two moose like two rabbets. and put his head under his belt. both side of his loin and go on all day.

now evening come. they camp and he dur out the moose skin like rabbet skined. and he cleansed he dress up for couck at the front of the fire. then he well roasted moose at the front of fire. and he take down on the ground and coole up for well then he cut in two piece then he take the hind quarter and man set other side to the fire and he throw right up on the top of the man. but the man he is smart. set down that way he jump out before moose hind quarter felt down on him. now moose hind felt down on his place where was set down. then great heaven say with gladness oh ho my grand son he is able man this he say for many time.

now then they take They super. and man he been eat how much he want from his meat. to much for him that half of moose and he leave his hind quarter. great heaven him he eat. he was eat all half of his moose. but he not Enough he hungry yet. and he see man he don't eat all his meat. he say oh hae my grand son he eat like a bird. and he take back that coock meat he give to the man and eat up again. then he eat up all one moose in one meal.

and now they ready for to go bed. great heaven he tell the man grand son don't sleep near me in case I might hurt you. I move to much in my sleep some place far off from me you go sleep he tell to man.

next morning they go on the same yesterday. and put man on his back under his coat one go. after long walk in a day he tell to the man grand son here at head of us rat loge and man see[129] oneside too his head. he see beaver loge he call rat loge and now they get at beaver loge great heaven he haded beaver loge with one of his feet. just broke out and beaver they felt off on the dry land too. and great heaven he kill all the beaver and now Evening come again they go camp and after they make fire great heaven coock all the beaver in one. but he cut off all the beaver tails and he throw away and now he been coock all his beaver and they eat the beaver meat and they go to bed. man he go to bed little away from his grand father. and now man he was sleep under big banded tree.

great heaven he go up and maket axe with beaver teeth. and he go to the man where he sleep and he start to cut down that tree the man sleep under. and the man hear it but this smart man know that won't not hurt him he let doing to cut down. and he light down under he don't move out. and now the tree cut down and the great heaven yel say ah grand son the tree fell down on you. but man jump out from his bed. and now man jump two different time under the tree before he fell down on the ground and now again great heaven say oh ha my grand son he is able man his is able man. many time he repeaded.

and now the morning come they go again. the same great heaven put man on his back under his coat then he go. and now arrive for why he take man. he headed lake and he stop there he take man out from his back. and there on the lake big giant set down over the hole through the ice. he lining fish. and great heaven tell the man grand son he scare to the fox and small winter birds and I dresset up you in fox you going to say stekyak veh veh veh. and you go other side of him. Then he be hear you. and he going to look what that meant and he be see the fox and will run home to save himself at the meantime I will hid myself oneside of his road to catch him. that time you come quick to the chore to undress out yourself and come my aid to kill him. and now great heaven he dresset up man in fox and when he finish man like fox and he go otheside where giant was lining fish out on the lake. and man say tstekyak veh veh veh and giant he hear it. he look back behind him. he see fox make noice in winter bird voice. the giant well scare and take out his hocke[130] and run to the chore and Every step he do ice crack and he say ice lie ice lie ice lie till he get on the chore. at the meantime great heaven hid on his road. and now great heaven and the giant they meet on the road of the giant and fight start for Death. but the giant strong than great heaven. great heaven more big than the giant but not strong Enough to bead[131] giant and great heaven yel to the man say come quick my grand son to aid me on the meantime man undress himself quickly but great heaven yel again say grand son come quick to my aid. and now man looset himself from fox dress. man himself is not giant friend but he enemie. and now man run how fast he can to catch up there where the fight go on. but the great heaven already kneelt down on the ground and the man he arrive there great heaven tell the man grand son cut his two hill[132] with axe. then the giant kneelt down on the ground. and now the man run up on his back to his kneck. there he cut back his kneck with his axe. then they slain the giant to death. and now the giant wife come to help her husband. but the man he haded with his axe and they kill that women too.

and now great heaven tell the man grand son you go see his camp if any thing there. and man he go to the giant tent. and there it is his children in the tent. they big like big man but this is only kids they are. and man open the tent door. giant children they see strange man and they take long stick and they push man beley[133] and they say we push out you beley oow oow oow. but man return to his grand father and he tell him grand father his children there in the tent. I open door to them. they push my beley with long stick and they say we push you beley oow oow oow. they tell me that he say man to great heaven. and now great heaven himself go to giant tent and he enter in the tent and he knock down on the top of giant children break off the top of they head. there come out mosquitoes from inside of they head. from that time mosquitoes begin never end. and now great heaven drink off they brain from the giant children head. and he tell to the man. oh my grand son. so he Been acted to my children. so I do to his children too and now end of fight. this lake found about 38 miles back fort good hope on the way of hundreson river. this lake indian call rawahe due and white people call N.T. lake and one place on that lake never freeze up small hole all winter open indian call into this days giant fish hocke place.

and now great heaven will comback where he come from and he tell the man grand son I leave you. now I going where I come from. and he give the stick to the man. and he tell him grand son take this stick with you to go way home. made stand up Every time you camp. then next morning this stick be felt down and which direction end of stick you go till you get home. and now great heaven tell the man again my grand son there is early fall my dogs they run away after animal and they never comback to me I lost them know for that. they bad in case they found you. you be going up on the tree and tied up youself up over the tree. do that every camp grand son. and if my dog found you they going chew down the tree with you. if this happen you never mine. many days spend from I leave you be yel say my grand father here your dog chew down the tree with me you say that. I hear you. then I going to calling them to me to save your life grand son he tell man this and great heaven again tell the man if after longtime the sky be red you be know I be dead. then you be mourn for me. say grand father it is Dead you be repeaded many time this words and cry. then great heaven go for Ever to the south west. we don't know where and how far he go. and now the man go the side of his home too. and he take the stick with him that one great heaven given to him for like compost[134] to not lost himself. but the man take many days before he get home. and Every camp he make stand up that stick great heaven given to him. and now when he get up the morning that stick felt down on the ground just go the end of that stick. he do that Every morning and now on his way one night he hear big noice down the bottom of the tree he tied up himself. then man look down he see all kind of animal bear big greaseley bear wolf wolfvrine marten fox mink linx all this animal chew down the tree which he tied on. and now the man remember the word of great heaven and yelted say grand father here your dog chew down the tree with me. and now man hear great heaven call his dog. Vileyaceye Votsethezeng leh leh leh and now all this animal hear it they master voice. once they run all that side. nothing leaf[135] and man go on his way till he get home.

Tale 10 (1,205 words)

MORNING WOMAN AND EVENING WOMAN

and one morning he go walk at head again. found new road to day they been go on. he go fellow that road and soon he see some body in the road crying say my boy and the man he know it is his attapted[136] mother. and man he go slowly to her for surprise her. and now the man he arrive behind her sled and light down under her sled on. now old women without know her sled become heavey and altogethe can poolleded[137] and stop. and now all[138] women she comback to her sled. what is wrong and she see nothing at all and she loose the line on her sled and she take every thing from out. now here it is her attapted son cry for it and now old women well pleased to see her attapted son she call. and old women she tell the new[s]. what happen after him my boy cience[139] go away soon after marten been married with your two wife and now the two women way at head far from old women.

then they go fellow them. and they catch up them where they sted[140] the tent already nearly finish set tent but only not put the snow around the edget of the tent to be warm up from the cold. already they make fire and go in the tent. and the old women she give best food we call tomeacan to her attapted son. and now man eat that food and now all come in the tent. the women come in too and other side to the fire this two women fix their place and set down there and between them the marten set too. from that place marten bother man much. and man he eat yet his good food we call tomeacan. this meat dry up first then roasded before Fire. Then after well coock they chap over against up on the clean smooth stone with the back of axe. then they mix with animal bone grease this bone they chap the same too and they boilet that bone. out of that bone they take lots grease and this grease it is best grease they take for that meat they mix together this is the best food they maket in ancient day. and man eat his food last just he eat round like ball.[141] and now marten see man on the top of fire oneside to the fire too see man without stop do this. and man eat his meat like ball. small piece leave in his hand. again marten stand up over the fire. man throw hard that meat ball right to marten nose he haded right on the nose. blood come out from his nose. and man say I throw little piece of grease cross there you goted[142] for eat. and the marten say to the women tell him I goted that piece of grease. and tell him I goted many time he repeaded words but say to the man for mocket to him that marten say that. and now the man get up go cross to him and he take up the kneck and he throw him outside and set down marten place. but the women they not happy with their husband. but in away[143] Explorer he comback at his place now. and after this they never say nothing for that old women what happen to her.

and now the man ster with his mad two women for well and now they ster some place there together. but the two mad women they don't ster home.

soon they rises in the morning they go away for all day long morning women they call[144] go to willow shore Every day just comback late home. and Evening women go to hay small lake every day from early morning till late evening they come home. but after longtime they both in labor. and now time come they deliver something. but man not see them what they got one man ster home he maket arrow rot with croocket knife. now he will see what they got. the first morning women he left up her blanket see young ptarmi this young ptarmi open rot leave alone he don't hurt. next Evening women he left up her blanket he see big fish lews[145] and thing she open mouth to man rot and man throw that rot right through her body and kill her burn up. Then Evening women more mad than before.

for marten at meantime explorer he set snare rabbet and he went in morning to visit his snare. he catch lots rabbets in his snare. big packet of rabbet he carry home in his big bag rabbet. then he put his bag in the tent right end of the room for see whom of them go to the bag. but both they don't touch the bag rabbet in. then late Evening come. Then Explorer get mad too. most powerful man he is he well displeased with women in ancient day they got red dry ashes for dyeing for how much going to use for dying any thing they put in the cup and they mixet with the water then he like dye of our day. and they dying something with never [come] off for longtime. and now man take his dye and go to his bag and he take out dead rabbet and he put under rabbet feets dying with his red ashes. and he throw them at the door and they come life and go out side and they run away in the bush. and nothing left to eat in the night. now the man dressed up himself with his warm cloths and go away in the night for good he leave his two wife behind many days spend out never comback

now Evening women tell morning women why you rest waiting here he won't comback. better for you to go in his track to fellow him till you join him and me I can not go because he well displeased with me for this reason he go away for good. he love young ptarmigan too better for you to go after him. he divorce me for good. this is Evening women reply to other women. and now morning women go fellow the track of her husband. and after longtime walk get dark she see camp fire she go near it is her husband. and now she go slowly to the fire for man not hear her. she come to him. and now the women just come out to the light and man see women her jump on his snow shoe. but women throw on his snow shoe young ptarmigan and she said you remember this young ptarmigan you been love him. don't forget him and don't go away for his sake. then man take little ptarmigan and he comback in his camp. so the morning women rejoin her husband. and now Evening women she go far to south. they know only one her camp first night it is don't the river thundrer river. she become grand mother of England. for this reason English people they work good than other nation because they got women hand it is look lik true.[146]

Tale 11

(1,400 words)

EXPLORER HELPS HIS PEOPLE

and now the man with his wife go on too. and they headed new people road. and they go on soon they see people ster in ther tent. and man stop he tell his wife ster here I go to them myself for see if they are good people.

now man set up the stage[147] for his wife and women went up on the stage now. the man before he go to the people he take off some white feather from young ptarmigan. he put on his head and now from that time indian they put on they head feather into this days. and man tell his wife see this feather where I go if you see the feather go on among the people. you be sure they receive in pease. but if this feather disappear into the people and never see anymore you be sure they kill me. and now man go to the stranger and now he get there. the people say stranger come they said and all the people went out to see the stranger. but this good kind peoples they receive stranger with joy and they go with stranger in their tent and now they coock much meat for stranger and now stranger he start to eat. and to much meat coock for him he try to eat all. but there it is to much to eat in once. and last piece of meat he have not place to eat more and he hid under the mattress he set on. and there in that tent enter in one corner it is dog tied this dog say stranger he put away meat but in this day animal they talk like men and man take the stick. he put this stick in human shade[148] he durt[149] in the shade. and he passet in the mouth of dog and now the dog nomore talk again like man. other way if he not done this the dog be always they be talk and nothing hide from them dog they say. and now the people say he got beachet[150] and they run back on their road not long they found women set on the stage they bring home that women too with joy.

then Explorer and stranger people enjoy together. and the people count up they trouble to Explorer. there is two bad wolf oppresset us much. when we go move at head men go early morning at head of women to hunt and this bad wolf they barr the women to not go at head. and women much suffer with this animal. and we kill them both chap out piece and burn up them with fire and nothing leave but still next morning they comback to life again and they kill who was kill them. and last we leave alone not bother with now but suffer us much. they tell all this trouble to Explorer.

and now next morning they move at head all and men go early morning. Explorer go with men at head and his wife with women behind. and now women come too and Explorer his wife morning women. she start to go first at head of the women and now not go far that bad wolf barr her with iron rot in they hand. and Explorer wife she at head of women. and she got iron spear in her hand too. and Explorer wife with out stop she go and she kill both bad wolf and she said do this with this bad wolf why they oppresset people and not bother with them your people say. and the women they make fire go that day now the women they arrive the camp place. they start to set up their tent and men they away to hunt. and now evening come home for over night.

and now next morning come. they move at head again. Explorer go with the men the same [as] yesterday and this young ptarmigan go with Explorer. and on the way little ptarmigan say to Explorer papa nearly I flight away. man tell him put more small stone in your pouch for [make] you heavey. but in away sometime in the day the young ptarmigan he fly away for ever. and never comback to man again. and now the men come home. Evening the same yesterday but bad new[s] the women tell the men Explorer his wife bad wolf they get alife again. they kill Explorer['s] wife and man sad for his wife.

next morning Explorer said to his nice people you go all and the women too go before me. I ster behind all of you. after well I go fellow you. and they do as Explorer tell them. now the man go and women go after well too. just Explorer alone set before fire he light down one side to the fire and now after well bad wolf they come with the iron rot in their hand. they stop where the man sleep one side to the fire and they said to Explorer what wrong with you you sorry for you beach.[151] but man tell them no Im not sorry for her. but I have headache this reason they leave me behind I can [not] walk I don't know what going to me. but this bad animal they go on fellow the people. and now after well man go in the road to rejoin his people and now bad wolf they stop women to go stand there Explorer he pass them at head and there it is two bad wolf they stand up both side of the road. and Explorer get there he kill both bad wolf and he ask for stone and axe. they give him axe and stone. he tell them to make big fire and they make big fire and at the meantime Explorer he chap bad wolf on the stone with the back axe and he throw in fire burn up all. and he ask them if they leave something out of bad wolf body and they answer him we burn all. but we always we throw away their tail. but now Explorer he burn all the tail leave for last. and now he take the tail he put on the stone for chap bad wolf said in his tail this one too. and man burn up every thing. but this bad wolf he and her they [have] their heart in their tail but now Explorer once again he destroy bad animal for good. and now they go at head altime to the west and now nomore bad wolf.

they go on for hunt but they never said nothing what they kill for life in the old story and now they cross rocky country. and that people they know the country where they go but for Explorer him new country he never been on. and the people tell to Explorer they going pass where the big frock[152] was. and this frock when pass there he cross his arm on our road to take people and we have much hard time to pass there. they tell that to Explorer. and now go pass there and Explorer with them. when they pass there big frock he straitchet out cross the road[153] his big arm. stop people but Explorer without stop he go there and he cut off his arm with his axe. then the frock flee in his hole for good never bother again after and now no trouble they pass there. and now they go other place again.

they tell to Explorer today we pass one side to the lake and in that lake there is big l'orge[154] living it is bad too, to pass there. he take people with his long tail. he put out his tail far on the land where we pass. take people with his tail know that. they tell this to Explorer. and now they go pass there again and Explorer he happy with his nice people and always with them and now they pass that lake. it is true big l'orge tail come out from the lake right at front of them where they should be pass and again Explorer without stop he go right to that l'orge tail and he cut off with his axe. big l'orge loose the tail and she flee back in the water. now nothing wrong there they passed happy.

Tale 12

(1,015 words)

EXPLORER AND THE WOLVERINES

and now they stop some place down the high set there tent. and from there they hunt. but now every day man go to hunt they never comback home. they go away for good and last not men. and now one morning

Explorer himself go fellow his beloved people track for see what is wrong with them. and he get up very early before day light and he go on they track. and he went up on the mountain in they track. he follow the track way up on the top of the mountain. he take off his snow shoe and go without snow shoe for not loose the track of his people. the same time he throw at head on his mit[155] for see that the end of top mountain. he throw something at head and he go behind that thing throw at head in dark he do that. and his mit throw at head disappear. and he stop there till day light appear. and now he hear dog barck lots like many people ster noise. and now day light appear in the morning and he look down the hill he see clear ice smooth like road going down till the bottom of the hill the end down see copper rot sharp stand up this side. this place it is perish people place. now he set there till day time.

now the dog barck he hear before stop not noise now. and now after well he see wolverine come to him with big bag on the back and man tell him where that dog noice I hear. but wolverine tell man ah brother inlaw don't speak loud there is two goats stand on the hill. you go hade[156] with your arrow but man know what he do. he want to know till the end what he do. and he tell go near to the goats and shot with your arrow wolverine said this to the man. and man doing what wolverine tell him he know that wolverine won't hurt him. already he see what he do with men and Explorer he go close to the goats to shot with his arrow. now wolverine near behind man and he ready to shot goat wolverine push down the hill the man but Explorer not fall down but stand up all down the hill jump this side and that side he jump all long way down the hill. and now where was copper spears stand up he catch up with his hand and he pass through his coat and he knock his nose with his hand and blood come out from his nose. and put on the sharp end of spears and look like spears was pass through his body and ster like that like dead. and little well after wolverine come to him say oh ha I done this to them many time but now again I done to him the same. just talk with himself and come take off man from his spears and now he put man in his big bag. now he put on his back for carry home but man his not dead. just for fool wolverine done like dead.

and now he go home with man in the bag. but man to heavey for him [man] boop[157] out and man laugh and he put his bag on the ground to see man but man look like dead then he go again to his home and now he get home. and his young they play outside they up on the tree and the younger one said of father that man it is life but old wolverine get mad with his young said to him if you see the place where I kill men you would not say that man is life. but in a way young wolverine say sure his life. now he bring his bag in his house now he take out man from his bag. he put man over cross [158] in his room and now he want cut out in piece but his knife not cut nothing he ask nother[159] knife to he wife but the same cut not and he get mad want to take axe and now Explorer he jump up stand take short wood burning and he haded right on the head and bad wolverine it is dead for good and she wolverine run outside man take men liver froze together [160] there he catch that and throw on she wolverine then both dead and now Explorer he go outside he kill all his young too.

but the younger one who was said man life yet hard to kill. Explorer he shot him with all his arrow. but that young wolverine he got copper glove and he push out the arrow and now Explorer he spend all his arrow to young wolverine. not chance for him this time with that dem[161] young wolverine. and now he spend all his arrow he don't leave he go hard for want kill but young wolverine to smart for man he is up on the tree and man take axe to cut tree with him young wolverine say I wish his axe sharp break off and axe brake at his word. and now man go up to catch him on but wolverine bizz and shade [162] in fool man want make fire under him but he bizz and shade and light out[163] the fire now seted[164] dead fall[165] for him. but this again he play with. man go inside to the fire to set there to be what going to happen to young wolverine but there he come down to dead fall and he put in his last small claw in and he fall down the dead fall on and he yel out and man run outside to catch him. but already run up on the tree. all day long he after young wolverine. but not way to catch him. [at] last man get tiered with young wolverine and Explorer said to him I wish you be wolverine forever. and now young wolverine answer him if I be wolverine when you cage something for next time tied good for I not touch your cage this was said wolverine to the man. and now Explorer he don't comback where he come from

Tale 13 (1,035 words)

HOW EXPLORER OUTWITS THE WOLVERINES

and now go to southwest. he go on again one morning man go on again. he headed a lake and man go on the lake to go other end to the lake but close to the chore and now he see again wolverine come out from the bush and he come to him. but man go justisame to him and man is not friend with wolverine he know what kind of evil he done to his good people. and now wolverine he see man. he go up run in the bush and he have he bag on his back. but now he come out hauling sled he put dry broshes in his bag like sled. now wolverine come to the man and he stop friendly with the man. and tell the man brother in law all your brother inlaw they went other river Arselgit river they call they all go that side only myself I come this side he tell to the man. and this bad wolverine he got in his hand haul[166] iron rot[167] the end turn like hock and he set on his sled. and he brake some broshes and say this ugley women she put wood spoon[168] brake off now and now man set down on his snowshoe. now wolverine he push his iron under and talk with the man. hear it that iron come under him and now he hear just under him now and him jump on wolverine and with his axe cut out all his face and he swall[ow] up all his face meat. and he say oh brother inlaw he fix my face for between the wood over the man cage[169] meat. and now after that man kill him and cut off his arm he hank[170] before the fire. and then he put his body oneside to the fire and he cover up him with his own bag like sleep. and he give him haul the stick in his hand for fool his young when they come.

and now man hide himself under snow for waiting his young when they come what they going to do and what they going to say. and now the young wolverine they come with they mother and say our father coock the arm they say all come run to fire. and now they take it down coock arm. and they start to eat that arm and again the younger say this meat dist[171] [like] our father arm meat. and now take off the cover out of they sleep. but this is not sleep but dead. and she wolverine tell her young go look for your father [killer] under snow. and now they start with the stick bonch in the snow.

and soon man run out from under snow and he run away from them and all run after for they think they going catch but not chance for them to catch man. and now they get warm and throw their cloths behind and their mother eat all their cloths she found and now evening come. all cold for them and they cry all of them and say man will you make fire for us. we all cold they said this and they go after man crying like that. and man stop for make fire. and now man make camp for them and he put wood together and now he light up fire and young wolverine they say silently just make fire for himself he make fire for himself he make fire for himself and he make fire for himself and make fire for himself they say that when the fire flame appear up. and man he hear them and now man take the snow and he throw on the fire light out till at the fire died altogether. and man jump on his snow shoe and he go away leave them behind freeze to death.

and now again man meet other wolverine on his way. this one again bad one and he tell the man brother inlaw just time to camp for over night and we camp together he say that to man. and Explorer know that they do the evil deed already. and he think of himself something wrong there and they make camp. man take wood and wolverine him he chaise[172] only rotten wood the end the hole inside. that kind of wood he put together at his side and now they go in the camp. this already spring time and warm in the day time and their pant get wete and they put up on the long stick oneside to the fire for dry up their pants. and now they go to bed and both they hank their pants up on the stick now they go bed and wolverine right away he sleep heavey and man get up he change pant he put his pant in the place of wolverine pant and he take wolverine pant he put over his pant place. now he comback sleep and now watch wolverine what he going to do. now not long after he get up and see man if he sleep already. look like he sleep already and he make big fire now and taket down the pant from man front and put inside of rotten wood and he throw middle the fire for to be burn. but man see him all what he do. and this pant he throw in the fire it is his own pant not man pant. and now they get up in the morning. man make fire and now man take down his pant to put on to dress up himself for go away. but now wolverine get mad with man and he say to man this is [not] you pant this is [not] you pant this is [not] you pant he say many time this. and last man answer him you got not garder[173] on your pant. then wolverine shate the mouth and not say nothing. and man dress up he go away he jump on his snow shoe. and now wolverine tell the man if you see my wife send me one my old pant. but the man not go to his place. where he go on he go. this is last fight Explorer done with bad animal we don't know his story after so far they know only but the old indian they say Explorer was become the father of us. for this reason the american they so strong in man work

PART II

SUMMARIES OF THE TALES

INTRODUCTION

In the summaries to follow, the action and plot of each story have been summarized in standard English. Actions that do not in our estimation add to the over-all meaning of the story have been deleted; actions that are repeated have been referred to by use of the word 'twice' or 'the third time,' even when description in the original is fairly extensive. In cases where there is a detailed description of a command and then an equally long description of a subsequent action, one of these has been summarized in a short phrase. Details of scenery and detailed descriptions of characters have also been omitted when these are not important to the main stream of the plot and action.

It is important to note that these summaries were originally written in order to provide the authors with an easier set of materials for the analysis of themes in the stories. However, the main purpose served by the presentation of the summaries is their utility in providing an extra glossary to the stories, one in which not only words but also meanings can be presented in standard English usage. A more detailed analysis using the tales as a source of raw data would require closer comparisons between the summaries and the original stories. What may be an adequate summary for one set of purposes may not do at all for another. For our purposes it is the tales themselves that are the basic material. For example, Mr. Voudrach often imposes his own word order on English; this peculiar patterning likely bears some relationship to the structure of his native Athapaskan. Thus the study of linguistic construction may be significant for the tales, but it would not be in the summaries.

Tale 1

THE ADVENTURES OF TWO BOYS

A man and his family are living out in the bush. He does not kill enough to feed them. One day while he is fishing, his wife finds a bear den. She makes a fire and smokes the bear to death. She hides the bear from her husband and feeds herself and her children when he has gone to fish. One day the man's brother arrives at camp and says he is starving. When the man tells him that they are starving too, the brother says that he had seen a bear skull on a stick on his way to the camp—a bear must have been killed there recently. The wife is now ashamed of herself and says that she still has some bear fat left. She goes and gets it; but when she comes back to the house, her husband is very angry with her and cuts off her head.

While the decapitated head of the mother rolls around the fire, the father gives his two sons a blue stone, a small piece of steel, and a twisted wire. Then the two boys flee from their mother's head. It comes rolling after them, but when it is about to catch them, they throw down the blue stone, and a big mountain appears between them and the head. As soon as their mother's head has got around the mountain and is about to catch them again, they throw down the twisted wire; the next time they throw down the piece of steel. Now they reach the shore of the sea and ask a sea gull to take them across. He flies across with them on his back. The boys now tell him that their mother's head is going to ask to be taken across too, but that he should drop it in the middle of the sea. This the sea gull does; he drops the head in the ocean among the big prey fish. The woman's head now says its last words: "I will be divided among all the animals of the earth and the birds."

Tale 2

THE OLD MAN AND THE BOY

The two boys are playing football on the shore. An old man (he is a bad magician) approaches in a boat. The ball lands in the boat and the old man will not throw it back; he tells one of the boys to come and get it. The older boy does so, and the old man rows off with him. The two boys cry for each other, to no avail. The younger boy then tells his brother that he will change himself into a wolf; and if the older brother sees tracks, he will know whose they are and will follow. But this is not to be.

Now the old man arrives home with the boy. He goes and tells his daughters that he has a beautiful boy in the boat, his choice as husband for one of them. The older girl goes down to see him, but the boy is ugly from weeping. She doesn't want him as a husband. The younger girl goes down, washes him, and sees that he is beautiful. Now the older girl wants him for a husband, but she is too late. He marries the younger one.

One day the young man tells his wife that he wants to make arrows. The old man, finding out what he said, tells him where to go for sticks. The young man sees a lot of sticks flying around in the air; he throws one up from the ground, and down come as many as he wants, already shaped.

Next he says that he wants sharp bones for his arrows. The old man again points out the direction. The sharp bones are flying in the air also, and the man throws up a stick again, and down come as many as he wants.

Then he tells his wife he wants sinew. The old man tells him again in which direction he should go. The young man goes and sees a big ox, but he has no weapons yet to kill it with. He persuades a mouse to go in through the anus of the ox to cut around its heart so that it dies. In this way the young man gets his sinew.

Now he says to his wife that he needs feathers. The old man tells him to go up a rocky hill. On the rocky hill the young man finds the nest of a man-eating hawk in which there are two young hawks. He kills one of these because it promises to inform the adult hawks that the man is there. The other one agrees to cooperate with the man. Soon the mother hawk returns with half the body of a man. She is suspicious, but the young hawk reassures her. She dies when she drinks the water in which the young man has planted a sharp bone. The father hawk is equally suspicious upon his return to the nest. He, too, drinks water in which the man had put a sharp blue stone, and dies. Now the young man brings ox meat and squirrel meat to the young hawk admonishing him never to eat human flesh, but to hunt squirrel instead. Then he gets feathers from the wings of the dead father hawk. He goes home and makes his bow and arrows.

Now well-armed, he goes to the place where he and his brother were separated. He finds tracks where a wolf had followed a moose into the water.

No tracks come out of the water. It looks as if both the moose and the wolf have perished.

The Kingfisher flies around the lake just as he does today. The man successfully persuades the bird to be swallowed by the big prey fish in order to cut out its heart. The man then cuts open the stomach of the fish and lets the bird out. He also looks in the fish's stomach for his brother's bones, but he finds only two pieces of moose horn. He leaves to go toward the North but is very sad at the loss of his brother.

Tale 3

HASKITJACK

The man Haskitjack is on his way to the North, singing loudly. A beaver comes swimming to him; he tells the man that he has come to make war against a most powerful man named Haskitjack. When the mighty man (Haskitjack) finds that the beaver is going to use his teeth to fight him, he pretends he wants to examine the teeth before the fight, and he breaks all except four of the beaver's teeth with his axe. The wounded beaver plunges into the water and thinks no more of attacking men.

The man goes on his way, again singing loudly. A lynx comes to him and says that he has come to fight powerful Haskitjack. When the man finds that the lynx is planning to use his strong tail to fight with, he pretends to want to examine the tail. He cuts off the tail with his axe. The lynx is hurt so badly that he forgets to fight with Haskitjack and flees, never more to fight with men.

The man goes on to the North. After some time he reaches a lake where all the geese in the world are seated on the shore. They are happy to hear that their brother Haskitjack is carrying songs on his back. Haskitjack pretends to be sad because the geese are not dancing with their eyes closed. And so the geese build a dancing-house and dance with their eyes closed. Then Haskitjack catches them, one by one, and wrings their necks. But by accident one of them sees what is happening, and they all flee out of the dancing-house.

The man now makes a fire to clean his geese, and then he puts them in the ground with only their feet sticking out so that he will remember where they are. He walks around the lake and meets a fox with a bandaged head, walking with a stick; the fox is pretending he has a headache in order to fool the man. The man tells the fox about the geese, and they go in different directions around the lake to see who will reach the geese first. But as soon as the fox is out of sight, he throws away the stick and runs to the place where the geese are stored. The fox takes them all out, hides them in the bushes, and sticks the feet back into the ground. The fox hides; the man arrives and waits for the fox. The fox comes out of hiding leaning on his stick again and pretends to have just arrived. The man makes a fire to cook geese for both of them, but he finds that only the feet are left.

Then the man goes on to the North. He sees little birds playing with their eyes, taking them out and throwing them into the air. He does the same. But the third time his eyes do not come back. The birds have flown away with them. Now he is blind, but he goes on anyway. The fox tortures him by poking his stick into the man's eye-sockets. After a while the man gets very tired of the pain and makes himself new eyes out of spruce gum.

He goes on to the North. He is hungry, but even though he sees geese, he can't kill any because they all fly away. He sees a moose and kills it. He cuts the meat up; birds come close to him, but he will not give them any meat. He strews it all over the ground. Now he wants to defecate so he goes to two trees and tells them to cover him. The two trees move close together. But when he wants to get out, the trees have him caught as in a trap. Meanwhile the birds eat all the meat. Only then do the trees move away.

Tale 4

THE MAN AND THE FOX

The man goes on his way to the North again. He sees geese, but they remember that once he killed many of them, and they now give him no chance to kill for food. The man sees a fox asleep on the prairie, and he remembers what evil the fox had done to him. He sets fire to the grass to burn the fox. But the fox is still smarter than the man. He wakes up and runs away. The man can't even find the remains of bones, so he thinks that the fox was totally burnt up.

Tale 5

ATTANTUDING'S ADVENTURE

The man goes on toward the North. When he reaches the river, he needs a canoe, but he doesn't know how to make one. There are rough rapids there. The man takes some spruce bark, throws it into the river, and then goes below some rapids to wait, but the spruce bark does not float down. It sinks in the river. He throws in some birch-bark, and this comes floating down. Now he stops to make a canoe by dreaming. He goes to sleep, and when he wakes up, there is enough birch-bark to make the canoe. He again goes to sleep, and on waking there are all the strips needed and all the frames too. Again he sleeps, and upon waking finds the strips and frames smoothed and painted. After the next sleep he finds the canoe all ready for sewing. The next time he wakes up, his canoe is sewn, and he puts it in the water, but it leaks at the seams. He waves a stick in the air and down falls all the spruce gum he needs; when next he awakens, his canoe is all gummed.

Now his name is Attantuding which means explorer with canoe. He makes a paddle and goes down the river.

He is tired from travelling a long way, and he stops to climb a rocky hill, on the top of which he meets the crow. The crow says to the man, "Look for lice on my head." While the man does this, the crow tells the man not to throw him down the rocky hill, because if he does, the man will never see people again. But after a while he pushes the crow down, and the rocks tear the crow to pieces, and he dies. The man goes on down the river. Twice he hears the noise of people, but he can't see anybody. Then he remembers what the crow said and returns to where he killed him. He takes all the pieces of crow and puts them in his blanket and carries them to flat country. He sits (*and bumps?*) on the bundle for a long time, until the crow says he is perfectly cured.

Then crow goes down the river with the man. Soon they arrive at the first place where the man heard the people. They land, and the crow tells the man to remove the big rabbit skin blanket which is on the ground, and to hit the big (*loge?*) which is under it. The people run out. The same thing happens at the second camp.

The man goes on to the North. After a long trip he passes around a point and sees an old man (who is really a giant) fishing with a spear. The man goes back behind the point and changes himself into a big jack fish. The old man spears him, but with a twist the spearhead breaks off, and the fish goes into deep water with it. He changes into a man again and hides the spearhead in the joint at the front end of his canoe. The old man sees him coming in his canoe and repeats in song: "It is you who broke off my spear." The man denies it. But the old man just keeps on singing, and the man goes to sleep. When he wakes up, his canoe is all cut up, and the spearhead is gone. He now has to repair the canoe by hand, because no man can make a canoe by magic anymore. His canoe is not the same as before; it now leaks a little all the time.

Attantuding arrives at what will later be called Norman, on the Mackenzie River. There an old man receives him joyfully, but he is really a grizzly bear who is looking for a way to kill the man. The old man tells him stories all day. Then the old man tells him about a grizzly bear who comes out from the bush, and he gives him advice on how to kill it. But the man does not take this advice; he hits the bear right in the heart with his sharpest arrow. The bear dies. The old man changes into a bear and runs after the man. The man reaches a lake and changes into a small jack fish. The bear drinks all the water in the lake. Now he cannot move and has to lie down. In the meantime the man, who is hidden under the grass, tells little water birds to pierce the bear's belly. They do this, and the water comes gushing out, tearing up the bear's belly like the cut of a knife, and the bear dies.

Tale 6

A FATHER AVENGES HIS SON

The man lives some years at Norman. He is married, and his wife bears him a son. One night he wakes up and finds his wife gone; only the baby is left. Outside he finds the tracks of giants.

The man takes care of the baby himself. During the day he leaves the baby in a hammock while he hunts rabbits or visits snares.

The boy grows bigger and is able to help. He wants to visit his father's rabbit snares alone, but his father will not let him. Finally, tired of the boy's crying, he lets him go, but tells him not to stop at the place where giants offer roasted beaver to men to fool them. But the boy does not come back. Next morning the father goes looking for him, and follows the giants' tracks. When he arrives at their camp, he sees that they have already eaten the boy. They themselves are not there.

He follows their tracks and observes that they have gone through a hole in the ice into the beaver lodge. He hides and waits until two giants come out, and he shoots them both in the heart with his sharp arrows and kills them.

When the third giant comes out of the beaver lodge he mistakes the man for a fellow giant and hands him the line of beavers so that he can go back underwater to get his pouch. The man frees all the beavers and throws roots and frozen mud into the hole so that the giant cannot get out: this giant then dies too. All three giants that ate the man's wife and son are thus destroyed.

Tale 7

ATTANTUDING AND THE GIANT

The man goes on to the North in his canoe. He sees a camp, lands, and finds only a giant's wife there. She receives him well. She anoints him with her dye. He goes on in the canoe and meets the giant coming home in his canoe. The giant says he smells grandmother dye, but the man denies this. The giant goes on to his camp, and the man hears him shouting at his wife. Although he knows the giant will come after him, he goes slowly down the river because he is not afraid. The giant is mad at his wife because she anointed the man with her dye, and he kills her.

Now the man sees the giant coming after him. So he climbs a tree that is bent over the water. The giant sees the man's reflection in the water, and chops at it with his axe. Finally the man throws a stick at him, and the giant sees that the man is really up in the tree. The giant starts to climb the tree, but the man tells him that the only way to catch him is with a long-handled fork of wood. While the giant is cutting the fork, the man slips down and hides in the bush.

The man goes farther down the river. He covers himself thickly with mud and stands on the shore. The giant comes close, but the disguised man looks just like a stub or root covered with mud. Several times the giant runs at the man with an axe held high to see if he will move, but the man doesn't.

The man runs away, and the giant chases him. They run around an island a few times. The giant gets tired of running and sets a snare for the man. However, the man sees him doing it and puts the giant's blanket in the snare. Now the giant sees something caught and starts making a fire to cook the man. But when he pulls in his snare he sees it is only his blanket. Now the giant has nothing to eat, and he doesn't know what to do.

The man is hidden as he watches the giant. Soon the giant kills some swans and roasts them. But he feels very tired and goes to sleep for awhile. Meanwhile the man replaces the swans with moss. When the giant wakes up he doesn't know what happened to his swans.

The giant kills a bear and makes a fire to roast it. But before he has a chance to cut up the bear, he becomes very sleepy again. While the giant sleeps, the man takes the bear away and replaces it with driftwood. The giant wakes up and sees that his bear is gone.

The giant is very hungry. He cuts off a part of his own flesh, chops it on a stone, and puts it in grease. A rat comes swimming close, and the giant asks it to freeze the grease in cold water. When the rat does this, the man, who is still near, tells it to drop the grease in deep water and to tell the giant that the grease is lost.

Now the giant again has nothing to eat. He decides to go to another country. He sings, and he takes one end of a small lake in his hand. Pulling the end of the lake so that a long narrow lake is formed he goes to the right side of the Mackenzie River. The giant is gone for good. Attantuding has done it again—he has chased the bad giant from this country.

Tale 8

THE MAN AND THE SHE-OTTER

Now the man continues on his way down the river. He comes to a camp which is not a human camp but that of the female otter and the mouse. They receive him with great kindness. Soon the otter gives him something to eat, but he does not like it. The mouse whispers that it is human flesh. The man asks for water, and the female otter is obliged to go far off to get running water from a creek. While she is gone the mouse gives the man carrots, well mixed with fish oil. The man eats this and throws away the human flesh. Then the man goes away in his canoe so that he will not be found by the female otter.

After a long time he gets tired and stops to camp. He sleeps, and when he wakes, he sees the otter, in the guise of a woman, asleep on her back, on the other side of the fire. But the man is not fooled. He makes a willow stick with a sharp point and pushes it right into her heart. The otter dies, and out from her vagina come a mink and a weasel. These two animals were in her when she changed into a woman, so that whenever a man had intercourse with her, these animals could kill the man for her food.

Tale 9

GREAT HEAVEN FIGHTS THE GIANT

The man is living at a certain place. When fall comes, he goes down the mountain to hunt. He finds a porcupine den, and he sees a big dark thing coming towards him. He is usually not a fearful man, but this time he hides in the porcupine den. The dark thing is Great Heaven, a man larger than a giant. Great Heaven tells the man to come out, or else he will be barred in the cave with a stone. When the man does not come out, Great Heaven puts a stone in front of the entrance. The man is not strong enough to roll it away, and he agrees to come out. He finds that Great Heaven is a peaceful man.

Great Heaven takes the man, puts him on his back under his coat, and walks away with him. They walk a long time, camp, and walk again. Great Heaven kills two moose (which he calls rabbits) with his arrows.

They camp and roast the moose. Now Great Heaven takes the hind-quarters of one moose and throws them right where the man is sitting. But the man is smart and jumps up before the hind-quarters of the moose fall on him. Then Great Heaven is glad and says that his grandson is an able man.

The man cannot eat all his portion of moose meat; Great Heaven eats a whole moose in one meal.

As they lie down to sleep Great Heaven is afraid of rolling onto the man and warns him not to sleep too close, since he moves around a lot in his sleep, and might roll on him.

Next morning they go on. They come to a beaver house (which Great Heaven calls a rat lodge). Great Heaven kills all the beavers, and when they camp he cooks them all. They go to sleep; the man sleeps under a big bent tree.

Great Heaven gets up and starts to cut down the tree under which the man is sleeping. The man hears him, but he does not move because he knows that if the tree falls it won't hurt him. Great Heaven shouts that the tree is falling on his grandson. But the man jumps up, and Great Heaven praises him as an able man.

In the morning they continue on their way. And now the reason why Great Heaven took the man with him becomes evident. They reach a lake where a big giant is fishing through a hole in the ice. Great Heaven tells the man that the giant is afraid of foxes and small winter birds; and so he tells him to dress in fox-skin and go to the other side of the giant and there make noises like winter birds. Then the giant will run in fear towards the place where Great Heaven is hiding. After this the man is to get undressed quickly and come to help Great Heaven kill the giant. Great Heaven dresses the man so that he looks like a fox, and the man goes and makes noises like winter birds. The giant runs to the shore where he meets Great Heaven. Now a fight to the death starts. The giant is stronger than Great Heaven, although Great Heaven is bigger. Great Heaven calls to the man to come quickly to help him. By the time the man gets there, Great Heaven is already kneeling on the ground. Now the giant kneels too, and the man runs up his back and cuts his neck with an axe. Then the giant dies. The giant's wife comes to help her husband, but she is also killed with the axe.

Great Heaven tells the man to go to the giant's camp to see if there is anybody there. The man finds the giant's children, who poke him in the belly with a long stick. The man goes back and tells Great Heaven what happened. Great Heaven goes himself to the giant's tent where he knocks off the tops of the heads of the giant's children. Then mosquitoes come out, and from that time on mosquitoes never cease to come out. Great Heaven drinks the brains from the giant children's heads. He tells the man that this is what the giant had done to Great Heaven's children. Now the fight is ended.

Great Heaven now goes back to where he came from. He gives a stick to the man. He tells the man to make the stick stand up every time he camps, and in the morning it will have fallen down in the direction in which the man should go. Great Heaven also tells the man to tie himself up in a tree when he sleeps; otherwise Great Heaven's dogs will harm him. If the dogs start chewing down the tree, the man should shout "My grandfather, your dogs are chewing down the tree where I am sleeping." Great Heaven will hear him and call the dogs away. Great Heaven also tells the man that when the sky is red, Great Heaven will have died, and the man should mourn for him. Then Great Heaven goes away forever. The man starts going home, following the directions of the stick. One night he hears a big noise under his tree, and when he looks down, he sees dogs chewing down his tree. He shouts to Great Heaven to call his dogs away.

Tale 10

MORNING WOMAN AND EVENING WOMAN

The man is walking towards home. One day he finds a new road, and he follows it. He sees someone ahead and realizes it is his adopted mother. To surprise her, he sits down on her sled. Since she can't pull her sled, she comes to see what is the matter. She is very pleased to find her adopted son. She tells him that he no sooner went away than the marten married his two wives, who are now far ahead on the trail.

Mother and son soon catch up to the two women and the marten, and they find the tent already set up. They all go in and sit down to eat. The marten is sitting on the other side of the fire between the two women; he bothers the man. The man chews his last bit of meat into a ball and throws it at the marten. Then he goes around the fire, takes the marten by the neck, and throws him out. He sits in the marten's place, but the two women are not happy with their husband.

They all live together for a while. But the two women do not stay at home. Every day they go away, but they come back in the evening. After a long while they are both in labour, and each of them delivers something. The man wants to see what they have. He makes a rod with a crooked knife. He lifts up Morning Woman's blanket and sees a young ptarmigan. Because the young ptarmigan leaves the rod alone, the man does not hurt him. The man lifts up Evening Woman's blanket and sees a big loose fish. The fish opens her mouth to the man's rod, and the man immediately thrusts the rod right through her body and kills her. Then Evening Woman is very angry.

The man sets snares for rabbits and catches a lot of them. He puts them all in a bag and takes the bag to the tent. He wants to see which of the women will go to the bag. But when neither of them does, Explorer is displeased with the women. He puts a powerful red dye on the feet of the rabbits, and they come alive and run away into the bush. Now there is nothing left to eat. The man dresses warmly and leaves the two women, never to come back.

Then Evening Woman tells Morning Woman to follow the man. She herself cannot go, because the man is very much displeased with her. Morning Woman follows her husband. Finally, she sees his fire and approaches the camp quietly so that the man does not hear her. But when he sees her, he jumps on his snowshoes to go away again. However the woman throws the young ptarmigan onto the snowshoes and bids her husband remember that he loves the young ptarmigan. For the sake of the ptarmigan the man allows Morning Woman to rejoin him.

Tale 11

EXPLORER HELPS HIS PEOPLE

The man and his wife reach a road. Soon they see people camping. The man tells his wife to wait while he goes to see if these are good people. All the people come out to see the stranger. They are good people, and they cook a lot of meat for the stranger to eat. Now the people say that he has a wife. Some of them go to his camp to bring back the woman who is received joyfully by the people.

Then the people tell Explorer their troubles. They say that there are two wolves oppressing them. The wolves always try to prevent the women from going ahead, but every time the people kill the wolves they come alive again and kill whoever killed them.

Next morning they move on, the men first and the women some distance behind. The two bad wolves bar the Explorer's wife who is at the head of all the women. She kills both wolves with an iron spear. Now the women can go ahead; they arrive at the camping place and stay there for the night.

Next day Explorer goes with the men as before, and the young ptarmigan goes with him. But some time in the day the ptarmigan flies away, never to come back. When the men rejoin the women, they are told the bad news. The two wolves have come to life again and have killed Explorer's wife. He is sad for his wife.

Next morning Explorer tells the people to go ahead and he will follow after a while. He sits alone before the fire until the two bad wolves come to ask him what's wrong. He tells them that he can't walk with the people because he has a headache. The wolves now follow the people, and after a while the man goes on too. He passes the women and sees the two bad wolves barring their way. He kills both wolves, chops them up, and throws the pieces into the fire. But he also burns up their tails, in which their hearts are located. The people had not done this before. Once again Explorer has destroyed bad animals.

They go on toward the West. The people tell Explorer that they are going to pass a big frog who stretches his arm across the road to take people. Soon they come to the place where the frog lives, and Explorer chops off the frog's arm with his axe. The frog flees into his hole and never bothers people again.

The people tell Explorer that they will pass a lake in which lives a (monster?) that stretches out its tail on the land where the people pass. When they come to the monster Explorer cuts off the tail with his axe, and the people are not bothered by it any more.

Tale 12

EXPLORER AND THE WOLVERINES

Explorer and his people are camping, and they hunt in the vicinity of their camp. One day the people do not come back to camp. Very early before daylight Explorer follows their tracks to see what happened to them. He goes up a mountain, throwing his mitten ahead of him so that he will know when he has reached the top. The mitten disappears, and there he stays until daylight. He hears dogs barking. He looks down the hill and sees that the hillside is smooth ice all the way to the bottom, where sharp copper rods are standing. The man sits there till daytime.

The same dogs are barking again, and a wolverine with a bag on his back comes to the man. The wolverine tells the man to shoot the two goats that are standing on the hill. The man knows that it is a trick because of what has happened to others in similar circumstances. But he knows what he's doing; he shoots the goats, and the wolverine pushes him down the icy hill. But Explorer does not fall; he jumps from side to side all the way down the hill. He takes a spear, and passing it through his coat, he smears the tip with his own blood. When the wolverine comes down the hill he thinks he has killed the man, and he puts him in a bag to carry him home.

The man is very heavy. He pops out of the bag and laughs, but when the wolverine investigates he still looks dead. The wolverine returns home, where his children are playing up in a tree. One of them tells his father that the man is still alive, and the wolverine gets angry at this. The wolverine takes the man inside his house and starts to cut him up. But the knife doesn't cut, and a second one doesn't either. The wolverine gets mad and goes for an axe. But Explorer jumps up and hits the wolverine on the head with a burning stick of wood and kills him. The wolverine's wife runs outside, and the man picks up the frozen liver of a human being and throws it at her. Now both the wolverines are dead. Explorer goes outside and kills all the young too.

But the one who said that the man is alive is rather hard to kill. Explorer shoots him with all his arrows, but the young wolverine has a copper glove and he pushes back all the arrows. The wolverine runs up a tree, and the man tries to cut down the tree with an axe. But the young wolverine breaks the axe by magic words. Then the man climbs up the tree, but the wolverine urinates and defecates on him, and when the man tries to make a fire under the tree the wolverine urinates and defecates again and puts out the fire. The man sets a trap for the wolverine, but although the wolverine falls into it, he gets out again right away. All day the man chases after the wolverine, but at last Explorer is tired of it and tells the wolverine that it can be a wolverine forever. The wolverine tells the man to tie up anything he catches after this.

Tale 13

HOW EXPLORER OUTWITS THE WOLVERINES

Explorer goes to the Southwest. One morning he reaches a lake, and he starts walking around it close to the shore to get to the other side. A wolverine comes out from the bush. He sees the man, and he goes back to get his sled. He comes to the man and is friendly with him. But while they are talking the wolverine pushes a hooked iron rod under the man. The man notices it, jumps on the wolverine, chops his face up with an axe, and swallows the face meat. Then the man kills the wolverine and cooks one arm, and puts him under his own bag as if he were asleep in order to fool the young wolverines.

The man hides himself, and the young wolverines come with their mother. They run to the fire and start to eat the arm meat, but when it tastes suspicious, they pull the bag off their father and find him dead. They start looking for the man, but he jumps up and runs away. The wolverines run after him, and after a while they throw off their clothes because they are warm. Their mother eats their clothes, and in the evening they are cold and beg the man to make a fire for them. The man stops to make the fire, but when he hears the young wolverines whisper that the fire is to roast him with, he puts out the fire and leaves the young wolverines to freeze to death.

Again the man meets a wolverine on his way. This one is bad, too. He and the wolverine camp together, but the man is suspicious. They collect wood, but the wolverine collects only rotten hollow wood. The pants of the wolverine and those of the man are wet, and they put them up on sticks by the fire to dry. The wolverine falls asleep right away, but the man gets up and changes the pants around. He sees the wolverine get up and put a pair of pants inside a hollow log and throw the log on the fire. But those are the wolverine's own pants. In the morning the man starts putting on his pants, and the wolverine gets mad because he thinks they are not his. But the man points out that the wolverine had no garter on his pants. Then the wolverine is silenced. The man jumps on his snowshoes and goes off on the trail. This is Explorer's last fight with a bad animal, and we don't know anything later about him, but it is said that Explorer became the father of all Indians. This is why the Indian is so strong and powerful in his everyday life and work.

PART III

ANALYSIS

INTRODUCTION

In a previous paper (R. Cohen and J. W. VanStone, 1962) it was found that the proportion of dependency motivation to that of self-sufficiency motivation has increased among Athapaskan Indians since the early part of this century. The authors put forward the hypothesis that "The contact period, especially that part that includes government welfare programs, tends to stimulate the dependency motivations at the expense of desires for self-sufficiency" (p. 32). Using early 20th century Chipewyan tales and contemporary Chipewyan children's stories the authors tested the above hypothesis by three methods.

The fact that children's stories were used could be considered a weakness in the study; that children are expected to be more dependent than adults might show up in fantasy material. The validity of comparing two such different sets of material, i.e., folktales and stories written by children in school on a free theme, could also be questioned. In this study we have used a contemporary Athapaskan adult subject from Fort Good Hope instead of children, and traditional folklore instead of essays written at school. The goal of this present study is a re-test of the hypothesis noted above, controlling this time for the type of material and for the age of the subject. However, several points of caution should be noted at the outset. First, we are using only one individual; this means that the idiosyncratic factors which play some part in folklore have presumably been given full sway. Secondly, the material in the first study was Chipewyan, and this present material is Loucheaux-Hare, i.e., northernmost Mackenzie drainage Athapaskan as compared with the more southerly and more eastern group. However, we feel that language, aboriginal culture, and acculturation experience for these two groups have been so similar as to make this distinction unimportant for present purposes.

METHODS AND RESULTS

For both methods used here, it is necessary to have distinct tales and episodes. The original manuscript by Paul Voudrach was written as one continuous tale, but this seemed to be a fabrication on his part with such devices as "and then he went on to the north" used as connections between widely different events. Therefore the authors have themselves divided the original manuscript into 13 tales and 65 episodes, each tale having from one to ten episodes. Tales were delineated on the basis of a definite change of scene provided by different characters or of a complete change in the type of action or of both. Episodes were designated on the basis of a different type of action which, however, tied in with previous action, or of a change to different characters of the same type (e.g., different animals) but involving similar action.

Method I (Method II in R. Cohen and J. W. VanStone)

It is assumed that plots in fantasy material have a metaphorical meaning which can be extracted in the form of themes (R. Cohen and J. W.

VanStone, 1962). Because of the nature of the original manuscript in this case, the tales were summarized in standard English to facilitate the understanding of each plot. The authors then discussed the plot and jointly agreed on the theme. Generic themes were extracted when the moral of the tale or plot seemed fairly clear. However, whenever the subject-matter became more complex, the themes were kept close to the material presented in the tale. An example of a generic theme is the one for the tale *A Father Avenges His Son:* "Men are superior to women and children." In contrast, a theme closer to the subject-matter is as follows: "Wives who hide food from their husbands will be punished, and the family as a whole will suffer, especially the children." This is a theme for the tale.

The Adventures of Two Boys.

In scoring the themes, the following definitions were kept in mind: self-sufficiency is present if a subject in the story makes any kind of effective or assertive move; dependency is present if effective action is directed at the subject, over which he has little or no control (R. Cohen and J. W. VanStone, 1962). Hence a theme would receive a score of S (self-sufficiency) if the sum-total of all action in the plot from which the theme was extracted weighed heavily on the side of effective moves by the subject. A theme received a score of D (dependency) if the subject were completely thwarted in his attempts at effective moves, or if there were no attempts at such moves by the subject, and if action were, instead, directed in his direction. Two of the themes received two scores (i.e., both S and D) because action by the subject was balanced by action directed towards the subject. The theme for the tale *Great Heaven Fights the Giant* has received three scores because there are various plots in the story which cannot be disregarded. Self-sufficiency here is too strong not to be scored for at all, yet the balance is on the side of dependency. The result is a score of S, D, D.

The themes are here presented, with the scores given for each. A table of the results is given as well.

	Score
d. Because man in the past antagonized supernatural beings, he lost much of his magical power and could not get everything he wanted through magic anymore.	D
e. Today man has to rely very much on his own resourcefulness to conquer evil forces in the world.	S
f. However, animals help man in this task.	D

Tale 6 A FATHER AVENGES HIS SON

a. Men are superior to women and children.	S
b. Young boys cannot get along without the superior experience of their fathers.	D

Tale 7 ATTANTUDING AND THE GIANT

Clever men can conquer bad things through their own resourcefulness.	S

Tale 8 THE MAN AND THE SHE-OTTER

a. Some animals are kind to man, but others try to harm him, even consume him. This, a clever man can overcome.	S D
b. There is always some danger in having intercourse with a woman, for she, like the animals, can consume a man.	D

Tale 9 GREAT HEAVEN FIGHTS THE GIANT

There are very powerful and fearsome spirits that need the help of able and resourceful men. If men cooperate and provide this help they in turn will be rewarded.	D S D

Tale 10 MORNING WOMAN AND EVENING WOMAN

a. Mothers help their sons even after the sons get married.	D
b. When men are away their wives often accept other males into the camp; therefore a man's children may not be his own; this can be dangerous. A clever man apprehends such infidelities and their results, and acts to overcome them.	S
c. Husbands leave bad wives.	S
d. Sometimes a man and wife will reunite because of their children.	D

Tale 1 THE ADVENTURES OF TWO BOYS

	Score
a. Husbands and wives should cooperate in subsistence activities and share all resources.	D
b. If wives hide food from their husbands, they will be punished, and the family will suffer, especially the children.	D
c. A father will help his sons by giving them magic objects.	D
d. Animals, including birds, can be prevailed upon to help men against bad things.	D

Tale 2 THE OLD MAN AND THE BOY

a. Men are often helped by their elders in their endeavours, but they have to resort to their own ingenuity to obtain advantage from such help.	S
b. Attraction between the sexes should not be based on first appearances.	—
c. Animals and birds can be persuaded to help man even against their own kind.	S
d. A clever man can kill animals without any weapons, but he needs the aid of other animals to do so.	D
e. Men are sympathetic to the fate of certain animals with whom they feel a sense of kinship.	D

Tale 3 HASKITJACK

a. Some animals are stronger than men, but a resourceful man can outwit them.	S
b. However, if men take too much advantage of their own cleverness, animals can, in turn, outwit them.	D
c. If men try to kill more than they need for subsistence, nature turns against them, and bad consequences will follow.	D

Tale 4 THE MAN AND THE FOX

Man and animals cooperate for man's welfare. If men kill for sport instead of for subsistence, animals will not cooperate and will outwit man.	D

Tale 5 ATTANTUDING'S ADVENTURES

a. There was a time when man could obtain everything he wanted by magic.	S
b. Unwarranted and deliberate killing of animals disassociated man from people and left him alone.	D
c. However, he averted this punishment by helping animals whenever possible.	D

Tale 11 EXPLORER HELPS HIS PEOPLE

	Score
A resourceful man can conquer troubles which others have not been able to overcome.	S

Tale 12 EXPLORER AND THE WOLVERINES

A clever man can outwit his enemies, but sometimes he fails because of carelessness or because of the magical powers of his opponents.	S D

Tale 13 HOW EXPLORER OUTWITS THE WOLVERINES

a. A clever man can outwit animals who try to harm him.	S
b. Indians come from ancestors who were very clever and resourceful.	S

TABLE 1. *Self-sufficiency and dependency in themes*

	No. scored	Per cent
Self-sufficiency (S)	15	40.5
Dependency (D)	21	56.8
No S or D	1	2.7
Total no. of scores	37	100.0

NOTE: Total number of themes is 33.

Qualitatively, these stories are formally quite traditional. Animals are treated anthropomorphically, and there are enumerable culture heroes who aid and abet humans. Humans turn into animals and vice versa, and cooperation is still a feature of the man-woman, man-animal, and man-supernatural relationships. However, in reading the stories one gains the impression that the cooperation themes are not nearly so dominant as they were in the folklore material gathered from the same area at an earlier period. Instead, man is either helplessly battling against evil or is dependent upon a friendly supernatural for help in his misery. Even sexual relations seem to involve danger and difficulties for man which are not compensated for by the cooperation of man and wife. In one story (tale No. 10) a man is only persuaded to take back his wife because of his love of children and of his responsibility in caring for them. Later on, however, this child runs away from the man without a backward glance. Thus, aside from the quantitative analysis, it is our over-all impression after working with these materials that despite their aboriginal format they connote man's condition as a lonely one; man is on his own and rather helpless in contrast to the harmonious man-as-a-cooperating-part-of-nature sort of impression gained from the earlier materials.

Method II (Method III in Cohen and VanStone, 1962)

In this method, the authors attempted to uncover certain motivational components expressed in the tales, and then related these through the use of the operational definition to self-sufficiency and dependency. The original folklore manuscript of Paul Voudrach was used for this purpose, each tale being scored for need for achievement, need for affiliation, need for power, and need for non-affiliation (cf. R. Cohen and J. W. VanStone, Method III). The method of scoring for the first three needs is explained in the scoring manuals given by Atkinson (1958). The fourth is a reversal of the scoring for need for affiliation (cf. R. Cohen and J. W. VanStone).

The junior author, who had never used this method before, learned it independently and applied it first. Departing from the usual procedure (scoring independently), the senior author then applied the method, knowing the scores of the junior author. The two sets of scores were correlated, using a Rho rank order coefficient, and were then averaged. A summary table of the average scores is given below in Table 2. A summary of the scoring method as presented in Atkinson (1958) may be found in Appendix II. Tables of all scores for each motivation are also given in Appendix II.

TABLE 2. *Motivational analysis of tales*

Motivation	Score
Need for achievement (11)	3.5
Need for affiliation (7)	2.4
Need for power (10)	1.2
Need for non-affiliation (7)	0.6

NOTE: Total possible scores are given in brackets beside each motivational component.

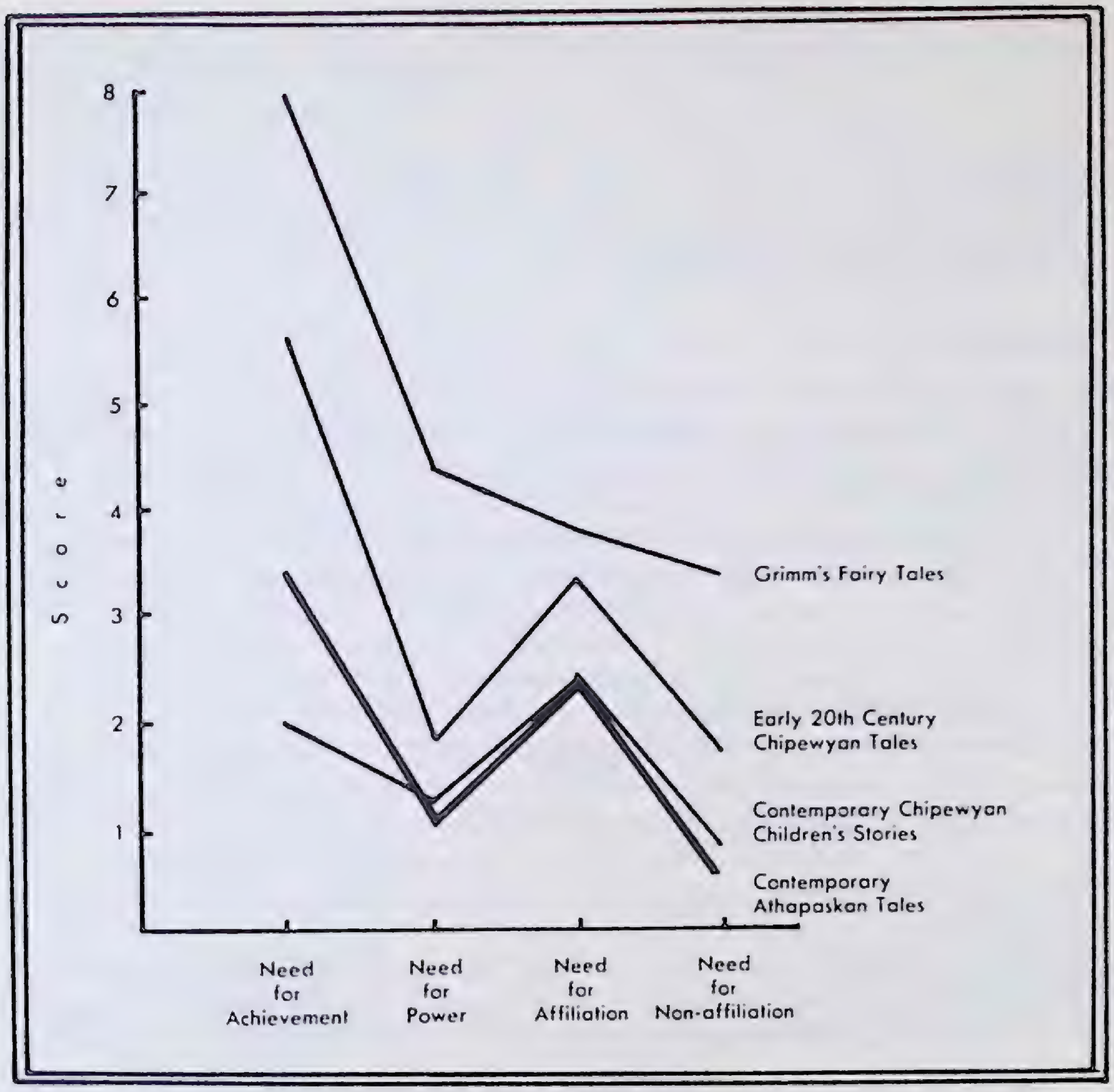
The authors graphed these scores and found that the graph corresponds in outline to previous graphs obtained from Chipewyan material, and contrasts with a graph obtained from Western material (cf. R. Cohen and J. W. VanStone, 1962). The numerical values can be seen to correspond very closely to those obtained from contemporary Chipewyan children's stories, except for need for achievement, which falls between that obtained from early 20th century tales and that obtained from the children's stories. These graphs are reproduced on the next page.

In order to use these scores as measures of self-sufficiency and dependency it was decided, in terms of the operational definitions, that need for achievement, need for power, and need for non-affiliation fall within self-sufficiency, and need for affiliation within dependency. A similar 'definition' is found in an article by G. Heathens (1955) who divides independence (our self-sufficiency) into two types:

(1) Instrumental independence: conducting activities without seeking help.

(2) Emotional independence: absence of needs for reassurance, for affection, and for approval. Needs to master tasks and to dominate others.

Though the first part of Heathens' emotional independence definition does not exactly correspond to our need for non-affiliation (he states specifically that this does not assume any specific independence needs), his "needs to master tasks" corresponds to our need for achievement, and his "needs to dominate others" to our need for power.



NOTE: The graphs from Grimm's Fairy Tales, early 20th century, and contemporary Chipewyan children's stories are taken from Cohen and VanStone (1963).

FIGURE 1. *Graph of motivational scores*

The scores for self-sufficiency and dependency are then obtained by the following formula:

$$\text{Self-sufficiency} = \frac{\text{need for achievement} + \text{need for power} + \text{need for non-affiliation}}{3}$$

$$\text{Dependency} = \frac{\text{need for affiliation}}{1}$$

The results are given in Table 3 on next page.

TABLE 3. *Self-sufficiency and dependency as reflected in a selection of motivations**

	Numerical Score	Per cent of total possible score
Self-sufficiency..........................	1.8	19.4
Dependency..............................	2.4	34.3

*Highest possible scores for self-sufficiency: $\frac{11 + 10 + 7}{3} = 9.3$; for dependency = 7.0.

CONCLUSIONS

The results of the two methods used in the present study are presented below in Table 4 along with the Chipewyan results from the previous study. Percentages are used so that the scores can be seen as proportions of the total possible score for any one method. Thus in Method I the results have been calculated as proportions of the total number of themes, and in Method II the results are shown as proportions of the highest possible self-sufficiency and dependency scores given under Table 3.

TABLE 4. *Results of the two methods compared with the same two methods from a previous study expressed as percentages of their total possible scores*

	Method I		Method II	
Source	Self-sufficiency	Dependency	Self-sufficiency	Dependency
Early 20th century Chipewyan............	16.3	25.1	15.5	17.0
Contemporary Chipewyan Children....	3.8	10.0	6.7	12.4
Contemporary Athapaskan Adult......	40.5	56.8	19.4	34.3

The table above shows that the results obtained in this study are comparable to those obtained from contemporary Chipewyan children's stories, and they are in contrast to the results obtained from the early 20th century Chipewyan material. In both the children's stories and the contemporary adult's material there is a substantial rise in the percentage of the scores devoted to dependency. Although dependency is somewhat higher than self-sufficiency for early 20th century Chipewyan tales, it is on balance more nearly equal to self-sufficiency than in the contemporary material. We have therefore obtained further substantiation for the hypothesis that the contact period, especially that part that includes government welfare programs, tends to stimulate the dependency motivations at the expense of desires for self-sufficiency.

There is also a striking similarity in the distribution of motivational components for all the Athapaskan material when it is compared with the distribution of motivational components in Grimm's fairy tales.

DISCUSSION

One of the criticisms that can be made of the previous study (Cohen and VanStone, 1962) concerns the comparisons made between early 20th century Chipewyan folklore on the one hand and contemporary Chipewyan children's fantasies on the other. Measured increase in dependency in the contemporary children's stories can be attributed to their youth, or even to the type of material which is not folklore, strictly speaking, rather than to the operation of the hypothesis. By using a contemporary adult from Fort Good Hope we attempted to control for age and type of material. It should be noted that in order to do this we have had to assume that the northern and southern sections of the subarctic Athapaskan area are culturally similar enough to be compared in terms of the variables we are interested in measuring. The striking results shown in the graph in Figure 1 bear out the contention that our assumption is a valid one for this present study. If this is not the case, then a truly extraordinary coincidence has occurred among all these Athapaskan scores. This correspondence of the Athapaskan material also bears out the major contention of the previous study that fantasy and folklore material are comparable for purposes of content analysis. If these materials are not comparable, the results are due either to chance or to the operation of variables not herein considered.

This latter point leads of necessity to a discussion of concepts. What do the terms 'fantasy,' 'folklore,' and 'motivation' really stand for in this study? On the basis of the evidence it seems most likely that what we have isolated as motivations in this study, especially in our concepts of self-sufficiency and dependency, is in fact close to what Parsons (1951: 7) calls 'need-dispositions.' This concept lumps together basic internal ego gratifications and cognitive awareness of the means for satisfying these wants. In other words, motivations as we have defined them here are those that have been culturally channelled. Given the over-all similarity of the Athapaskan results when compared to European stories, this seems to be the only sensible approach to take. Thus we may define folklore as traditionalized fantasy production. It probably varies with mood, occasion, and audience, but we suggest that it maintains, at any one time period, a core set of components derived not from the individual but from the cultural context, i.e., from that part of the individual which he shares with others. Although this traditional core is sensitive to changing conditions, it represents a continuity with the past and therefore bears a resemblance to the past. Fantasy on the other hand is an idiosyncratic production of stories either by an individual or a group, usually in response to some kind of stimulus. It varies as well with audience, mood, and occasion. Moreover, it, too, manifests the core set of components that reflect the individual's membership in a cultural tradition. Thus the core of culturally induced material should be obtainable from both sources. In other words, this study, along with the previous one, suggests that the form of fantasy production, whether it be free expression, or institutionalized in the form of folklore, has little effect on the underlying motivational components expressed in the material.

Finally, it should be noted that this paper has said something about Athapaskan Indians as people. It suggests that they have retained a basic similarity of 'needs-dispositions,' or wants and means of gratifying these wants, in relation to the 'needs-dispositions' of their fathers and grandfathers of fifty years ago. This similarity could be due to child-training techniques, to similar conditions in their social and cultural environment.

or to other factors as yet unknown. The present study is not concerned with this problem. The analysis has shown, however, that within the over-all continuity of motivational components there has been some change in the direction of an increase in dependency as against self-sufficiency motives. According to our definitions of these terms, this means that the Hare Indians are less apt to originate action or to actively respond to their social, cultural, and physical environment, and are more likely to passively accept actions and forces directed at them, than were their predecessors.

It is by now a trite fact that Indians in Canada are more dependent upon the services of various agencies of government and private enterprise than has been the case in the past. This present paper and the previous one (Cohen and VanStone, 1962) together suggest very strongly that this change in the culture contact situation has brought about a psychological shift at a deep level, and the result is apathy and the increased dependency of the Indians.

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APPENDIX I

GLOSSARY

1. ster: stayed
2. sport: support
3. out in piece: up in pieces
4. lining fish: fishing with a hook and line
5. life: live
6. to: do
7. hoke: hook
8. spent: passed
9. thod: thought
10. well: very
11. at meatime: in the meantime
12. they: their
13. she become: it becomes, or there appears
14. maket: make it
15. the time: while
16. not body: nobody
17. what she doing to pass the mountain: how she manages to pass the mountain
18. through: throw
19. set: sitting
20. other side cross to the sea: across to the other side of the sea
21. flight: fly
22. las: last
23. well: while
24. chore: shore
25. roe: oars
26. said land: in this land (uncertain)
27. safe: save
28. dry: dried
29. flight: flying
30. how much he want the stick: as many sticks as he wanted
31. flight round up on the air: fly around up in the air
32. hated: hit
33. arm: arms, weapons
34. life: alive
35. both they: both of them
36. that one say: the one that said
37. you here: that you are here
38. to hut: too hot
39. swole: swallowed
40. par: pail
41. glaw: claws
42. peak: beak
43. barren squirrel: variety of squirrel
44. his brother leave sparated: his brother and he were separated
45. headed: reached
46. oinct: anoint
47. he going to be kick: he's going to thrash around
48. wate: wet
49. take off: take up
50. all long in you life: all your life
51. cot: caught (uncertain)
52. to your eyes: of your eyes
53. to see your teeth: so I can see your teeth
54. hide: hidden
55. haded: hit it (the beaver)

56. collected: (uncertain—depends on actor and object of reference)
57. a mighty: mightier
58. will: want to
59. vanges: vengeance
60. games: geese
61. your game dancing close eyes: that you geese dance with eyes closed
62. nock his parnerd: knocked his partner
63. appear: leaves
64. maket: makes, reaches
65. bided: waited for
66. to be his eyes comback: for his eyes to come back
67. suffer him: made him suffer, tortured
68. moked to: mocked
69. diet: tired
70. broose: spruce
71. scare to him: scared of him
72. wisketjack: culture hero
73. shade out: defecate
74. tiedet: tie up
75. sport: support
76. prerye: prairie
77. cresey: crazy
78. broose back: spruce bark
79. bortch back: birch bark
80. floght: float
81. light: lay
82. planet: planed, smoothed
83. meeded: met
84. lews: lice
85. inaway: anyway
86. tur out in piece: tear in pieces
87. pool: pull
88. people sign but not body: signs of people but nobody there
89. boop: (uncertain—probably bump)
90. meset: missing
91. loge: (uncertain)
92. hade: hit
93. liegh: lying
94. stage: staying
95. hardley: hard
96. sized: cease
97. spladet: split
98. bapish: babiche
99. lick: leak
100. somall: small
101. crole: growl
102. stob: stub
103. mod: mud
104. felt: filled
105. scence: sense
106. san souve: name of rapids
107. banted: bent
108. chap: chopping
109. shade: defecate
110. defent: different
111. fart at head: far ahead
112. sung: sank
113. cipp: (uncertain—part of the body)
114. drive wood: driftwood
115. sor: sore, bad

116. chapet: chopped
117. durt: dirty
118. hay lake: variety of lake, possibly lake with reeds
119. sparetion: separation
120. pul: ball (uncertain)
121. with size not: very softly, quietly
122. pillet: piled
123. cot: caught (uncertain)
124. telta: delta
125. talk: takes
126. goal: coal
127. barr: bar
128. dant: dents, bumps
129. see: look
130. hocke: hook
131. bead: beat
132. his two hill: (uncertain—probably refers to part of body of giant)
133. beley: belly
134. compost: compass
135. leaf: left
136. attapted: adopted
137. can poolleded: cannot pull it
138. all: old
139. cience: since
140. sted: stayed
141. last just he eat round like ball: the last part he chewed into a ball
142. goted: got it
143. in away: anyway
144. morning women they call: the one they call Morning Woman
145. big fish lews: big loose fish (uncertain). This episode has phallic connotations.
146. it is look lik true: this seems to me to be the explanation
147. stage: (uncertain)
148. shade: excrement
149. durt: dirtied it (the stick)
150. beachet: (uncertain—could be bitch—i.e., wife)
151. beach: bitch, wife
152. frock: frog
153. roat: road
154. l'orge: large monster ? (uncertain—possibly ogre)
155. mit: mitten
156. hade: hit
157. boop: peek
158. cross: across
159. nother: another
160. men liver froze together: frozen human liver
161. dem: damn
162. bizz and shade: urinates and defecates
163. light out: put out
164. seted: set
165. dead fall: (uncertain—probably a kind of pit trap)
166. haul: hold
167. rot: rod
168. and say this ugley women she put wood spoon: (uncertain—probably to do with magic)
169. he fix my face for between the wood over the man cage: (uncertain)
170. hank: hang
171. dist: tastes
172. chaise: chooses
173. garder: garter

APPENDIX II

The following are the criteria used for judging the tales for motivational components. McLelland, *et al.* (*in* Atkinson, 1958) have used the following criteria for the definition of Achievement Imagery (AI): the story must contain an explicit statement of concern over successful competition with a standard of excellence, a character must be involved in some unique accomplishment, or there must be concern over long-term achievement goals. The authors have used these criteria somewhat differently, taking into consideration cultural differences. Thus, we have left out the phrase 'an explicit statement of concern over,' and we have left out 'long-term achievement goals' entirely (possibly because no instance of this occurs anyway). Under 'unique accomplishment' we have included such events as getting the best of evil animals and giants. If AI is judged to be present, then scoring may continue and the following behavioural sequence may or may not occur on the part of a character in the story.

> He may also be anticipating successful attainment of his goal (Ga) or anticipating frustration and failure (Ga−). He may engage in activity instrumental (I) to the attainment of his goal which may lead to the attainment of the goal (I+) or not (I−). Sometimes his goal-directed activity will be blocked. The obstacle or block (B) to his progress may be located in the world at large (Bw) or it may be some personal deficiency in himself (Bp). He may experience strong positive and negative affective states while engaged in solving his problem, i.e., in attempting to gratify his motive. He is likely to experience a state of positive affect (G+) in goal attainment, or a state of negative affect (G−) when his goal-directed activity is thwarted or he fails. Often someone will help or sympathize with him (nurturant press—Nup) aiding him in his goal-directed behavior (Atkinson 1958, p. 179–80). Someone in the story states the desire to reach an achievement goal (N). (Atkinson 1958, p. 190.)

I? is scored if there is no indication of whether the goal is reached or not. Finally, the entire story is judged as being primarily an achievement story and given a score for Achievement Thema (Ach Th). If the story is not scored AI, it is scored TI if there is any suspicion of its being achievement-related, and UI if it is totally unrelated to achievement. Each of the categories above can be scored only once (I+, I?, and I− are counted as one category, I), so that the total score possible is 11. TI receives no score (i.e., 0), but UI gets a score of −1.

> According to the scoring manual, Affiliation Imagery (Aff Im) is scored when the story contains some evidence of concern in one or more of the characters over *establishing, maintaining, or restoring a positive affective relationship with another person. This relationship is most adequately described by the word friendship.* The minimum basis for scoring would be that the relationship of one of the characters in the story to someone else is that of friendship. (Atkinson 1958, p. 205–06.)

The sub-categories for Affiliation Imagery are similar to those for Achievement Imagery except that here no Nup is included. A + 1 score can only be given for Aff Im, N, I+, Ga+, Bw, G+, and Th, making the total possible score 7. There is no distinction necessary here between TI and UI because both are scored 0.

The scoring for Non-affiliation Imagery is done by inserting the negative into the criteria used for Aff Im.

Power Imagery (P Im) is scored when "there is some reference to the thoughts, feelings, and actions of one of the characters in a story which indicates that the character is concerned with the control of the means of influencing a person" (Atkinson 1958, p. 220). If this is present, sub-categories can be scored. Again, there is no Nup. The categories can each be scored only once (I being one category) giving a total possible score of 10.

The scoring tables are reproduced below in Tables 5, 6, 7, and 8. All categories by either of the authors are noted in the scoring tables. Correspondence between the authors is given by the Rho[*] at the bottom of each table. It should be noted that these are uniformly very high; in other words the authors disagreed only rarely on any particular score. The highest possible score for each motivational component is given in the top right-hand corner of each scoring table.

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[*] Spearman's Rank Correlation Coefficient, as explained in Moroney, M.J., *Facts from Figures*, Penguin Books, London, 1958.

TABLE 5. *Need for Achievement*

Score	+1	0	−1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	TOTAL 11
Tale No.	AI	TI	UI	N	I+	I?	I−	Ga+	Ga−	Bw	Bp	Nup	G+	G−	Th	
1	×	−	−	×	−	−	×	−	−	×	−	−	−	−	−	4
2	×	−	−	×	×	−	−	−	−	×	−	×	−	−	−	5
3	×	−	−	−	×	−	−	−	−	×	×	−	−	−	×	5
4	×	−	−	×	−	−	×	×	−	×	−	−	−	−	×	5.5
5	×	−	−	−	×	−	−	−	−	×	−	−	−	−	−	3
6	×	−	−	−	×	−	−	−	−	−	−	−	−	−	−	2
7	×	−	−	−	−	−	×	×	−	−	×	−	−	−	×	5
8		×														0
9	×	−	−	−	×	−	−	×	−	×	−	×	−	−	−	5
10	×	−	−	−	×	−	−	−	−	−	−	−	−	−	−	2
11	×	−	−	−	×	−	−	−	−	−	×	−	−	−	−	3
12	×	−	−	×	−	×	−	−	−	×	−	−	−	−	−	3.5
13	×	−	−	−	×	−	−	−	−	−	−	−	−	−	−	2
															TOTAL AVERAGE	45 3.5

Rho = .98

TABLE 6. *Need for Affiliation*

Score	+1	0	+1	+1	0	0	+1	0	+1	0	+1	0	+1	TOTAL 7
Tale No.	Aff Im	UI	N	I+	I?	I−	Ga+	Ga−	Bw	Bp	G+	G−	Th	
1		×												0
2	×	−	−	−	−	×	×	−	×	−	×	×	×	4.5
3	×	−	−	−	−	−	−	−	−	−	−	−	−	1
4		×												0
5	×	−	−	×	−	−	−	−	−	×	×	−	−	3
6	×	−	−	−	×	−	−	−	×	−	−	×	×	3
7	×	−	−	−	−	−	−	−	−	−	×	×	−	1.5
8	×	−	−	×	−	×	−	−	×	−	×	−	−	3
9	×	−	−	×	−	×	−	−	−	×	−	×	×	3
10	×	−	−	×	−	−	−	−	−	−	×	−	×	4
11	×	−	−	×	−	−	−	−	×	−	×	×	×	5
12	×	−	×	−	×	×	−	−	×	−	−	−	×	3
13	×	×	−	−	−	−	−	−	−	−	−	−	−	0.5
													TOTAL AVERAGE	31 2.4

Rho = .88

TABLE 7. *Need for Power*

														TOTAL
Score	+1	0	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	10
Tale No.	PIm	UI	N	I+	I?	I−	Ga+	Ga−	Bw	Bp	G+	G−	Th	
1	×	–	–	×	–	×	–	–	×	–	–	–	–	2.5
2	×	–	–	×	–	–	–	–	–	–	–	–	–	2
3	×	–	–	×	×	–	–	–	×	–	–	–	–	3
4		×												0
5	×	–	–	–	×	–	–	–	–	–	–	–	–	2
6	×	–	–	–	–	×	–	–	–	–	–	–	–	2
7	×	–	–	×	–	–	–	–	–	–	–	–	–	2
8		×												0
9	×	–	–	×	–	–	–	–	–	–	–	–	–	2
10		×												0
11		×												0
12		×												0
13		×												0
													TOTAL	15.5
													AVERAGE	1.2

Rho = .97

TABLE 8. *Need for Non-affiliation*

														TOTAL
Score	+1	0	+1	+1	0	0	+1	0	+1	0	+1	0	+1	7
Tale No.	N-aff I	UI	N	I+	I?	I−	Ga+	Ga−	Bw	Bp	G+	G−	Th	
1		×												0
2		×												0
3		×												0
4	×	–	–	–	–	–	–	–	–	–	–	–	–	1
5		×												0
6		×												0
7		×												0
8	×	–	–	×	–	–	–	–	×	–	–	–	×	4
9		×												0
10	×	–	–	–	–	×	–	–	–	×	–	–	–	1
11		×												0
12		×												0
13	×	–	–	×	–	–	–	–	–	–	–	–	–	2
													TOTAL	8
													AVERAGE	0.6

Rho = 1.00

SUBSISTENCE AREAS OF THE CREE-OJIBWA OF THE EASTERN SUBARCTIC: A PRELIMINARY STUDY

By Edward S. Rogers*

RÉSUMÉ

Cet article a pour but d'étudier l'économie alimentaire des Indiens vivant dans les régions septentrionales presque arctiques afin de déterminer les types de subsistance de base et de dresser une carte approximative des régions de subsistance. Ce travail est assez difficile du fait que l'on manque de données précises sur ces régions, et que celles que l'on reçoit sont sujettes à des modifications, d'une fois à l'autre. Le milieu se transforme, sous l'action de phénomènes naturels mais aussi par l'intervention de l'homme; d'autres complications surgissent de l'accroissement des échanges culturels parmi les habitants de différentes régions.

La tentative de délimitation des régions de subsistance repose sur le choix de trois périodes: le XX^e^ siècle, le XIX^e^ siècle et la période s'écoulant de 1600 à 1800. Les données sont les plus complètes pour la période la plus récente, mais elles sont pourtant plus ou moins précises et sujettes à caution en différentes régions.

Les mammifères constituent la principale ressource alimentaire (gros gibier: caribou, orignal, castor; menu gibier: spécialement le lièvre) avec les oiseaux (spécialement le gibier d'eau) et le poisson. Les aliments végétaux ont une importance négligeable dans ces régions.

Etudions tout d'abord la première période. On obtient des indications souvent contradictoires, qui résultent apparemment de variations locales et cycliques dans les densités de gibier et aussi du fait que les observations ont été faites sensiblement aux mêmes périodes de l'année. En se basant sur les données obtenues, on a déterminé trois types principaux de subsistance que l'on a essayé de localiser sur une carte: la région 'gibier d'eau-poisson' des basses-terres de la baie d'Hudson, qui se trouve sur la route migratoire du Mississipi, où, à en juger par certains écrits, les oies et les canards sauvages auraient eu une certaine importance dans l'économie indigène, par opposition à d'autres types plus variables de subsistance dans le reste de la région, divisée en une région 'orignal-poisson' dans le sud du Québec et le centre de l'Ontario, et une région 'caribou-poisson' dans la péninsule du Labrador.

En ce qui concerne la période allant de 1800 à 1900, les écrits portant sur les basses-terres de la baie d'Hudson indiquent que le type de subsistance 'gibier d'eau-poisson' existait déjà. Le type 'caribou-poisson' apparaît clairement dans la péninsule du Labrador. Vers le sud et l'ouest l'importance du poisson est indiscutable, mais il y a peu de traces de l'orignal dans de nombreuses régions où cet animal a pris de l'importance au XX^e^ siècle. Le caribou, le lièvre et d'autres

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animaux sont plus ou moins importants. On admet la possibilité d'une zone 'orignal-poisson' dans la partie sud-est de la région.

De 1600 à 1800 la région septentrionale presque arctique était à peu près inconnue. Certaines indications de l'époque soulignent l'importance du caribou et du poisson dans la plus grande partie de la région, et celle de l'orignal et du poisson (anguilles) dans le sud du Québec. On a très peu et parfois pas d'indications sur le type de subsistance (pas plus que sur une population indigène) dans les basses-terres de la baie d'Hudson.

En résumé: Les indications obtenues laissent supposer que le type 'caribou-poisson', jadis très répandu dans la région septentrionale presque arctique, s'est trouvé limité à des zones de plus en plus restreintes, par suite de la disparition progressive du caribou, dans les régions du sud tout d'abord, puis vers celles du nord. La disparition du caribou entraîna une adaptation de l'économie alimentaire. Le déplacement vers le nord des orignaux ne constitua pas immédiatement une ressource de remplacement, faisant ainsi place à une zone assez peu définie, ondulant vers le nord, entre les régions de type 'caribou-poisson' et celles de type 'orignal-poisson', où les habitants se nourrissaient principalement de petit gibier et de poisson. D'après les renseignements obtenus, un type de subsistance 'gibier d'eau-poisson' existait depuis 150 ans à l'intérieur des basses-terres de la baie d'Hudson. De nos jours, on peut observer de grands changements dans toutes ces régions à la suite de l'intensification des contacts avec les Européens.

SUMMARY

The aim of this paper is to examine the food economy of the Indians of the eastern subarctic for evidence of basic subsistence patterns and to attempt an approximate mapping of subsistence areas. Difficulties arise from the lack of consistently detailed data from all areas and from variability in data available for different times. There have been natural and man-induced environmental changes, and further complications arise from the increasing degree of acculturation among the inhabitants of different areas.

Three time periods are selected as bases for the attempt to delimit subsistence areas: the 20th century, the 19th century, and 1600–1800. The data are most complete for the most recent period, although there is considerable variability in reliability and detail for different areas.

The major food categories are mammals (big game: caribou, moose, beaver; small game: particularly hare), birds (especially waterfowl), and fish. The importance of vegetal foods in the area is negligible.

The modern period is considered first. Conflicting evidence appears to result from local and cyclical variations in game densities and from the fact that observations were frequently limited to particular seasons of the year. On the basis of available data three major subsistence patterns are defined and tentatively mapped: the 'Waterfowl-Fish' area of the Hudson Bay Lowland, which is within the Mississippi flyway and for which the literature strongly suggests the importance of ducks and geese in the native economy, as opposed to more variable patterns for the rest of the area, divided into a 'Moose-Fish' area in southern Quebec and central Ontario, and a 'Caribou-Fish' area for the Labrador Peninsula. For the 1800–1900 period, the literature on the Hudson Bay Lowland indicates that the 'Waterfowl-Fish' subsistence pattern was already in existence. For the Labrador Peninsula the 'Caribou-Fish' pattern is clear. To the south and west the importance of fish is unquestionable, but there is little evidence for moose in many areas where this animal became important in the 20th century. Caribou, hare, and other animals are important to varying degrees. A 'Moose-Fish' area is postulated for the southeastern part of the area.

During the period 1600–1800 the eastern subarctic was relatively unknown. Early evidence stresses caribou and fish for most of the area, with moose and fish (eels) stressed in southern Quebec. There is little or no evidence for the subsistence pattern (nor indeed for a native population) in the Hudson Bay Lowland.

Summary. Available evidence suggests that a 'Caribou-Fish' pattern, once very widespread in the eastern subarctic, shrank in areal extent as caribou became scarce, first in the southern areas and later farther north. As caribou decreased, adjustments in the food economy were made. The northern movement of moose did not provide an immediate replacement, leaving a variable zone, shifting northward, between the main 'Caribou-Fish' and 'Moose-Fish' subsistence areas, where the inhabitants relied primarily on small game and fish. Within the Hudson Bay Lowland, evidence points to a 'Waterfowl-Fish' subsistence pattern existing for the past 150 years. Stemming from the intensification of contacts with Europeans, great changes are observable today in all areas.

INTRODUCTION

Although more detailed data are now being obtained as to the quantities of game secured annually by the hunting peoples of the eastern subarctic of Canada, there is in reality a dearth of such information in the literature in contrast to other topics. This is not surprising in view of the fact that with a hunting and trapping economy, such as the Cree-Ojibwa possess, the people are widely scattered for a considerable portion of each year, and, because of this, the investigator cannot observe more than one small group at any one time. Furthermore, native informants tend to be quite vague as to exactly how much game they do secure during any one year. Honigmann has said of the Great Whale River Indians, "Although I collected animal-kill and store-food consumption figures from the Indians, these figures seem to be quite unreliable, especially for country food" (1962*a*: 60). Perhaps another assumed reason that such data have not been collected is that the eastern subarctic is environmentally uniform and, accordingly, so are the economy of the people and the game taken. That this is far from the case will be seen in the following account.

The purpose of this paper is to examine the dependence placed upon the major types of game taken for food by the hunters of the eastern subarctic of Canada and to attempt a preliminary mapping of regional variants. Several reasons make this difficult. One is the lack of sufficient observations to allow for a precise mapping. A second is the fact that because of contact with Euro-Canadian culture the economic way of life of the peoples of the eastern subarctic has been altering over the years. A third reason is the alterations that have occurred in the environment because of natural causes and the effects of man. The first is illustrated by the northward advance of the moose (Peterson, 1955: 14–18). The second can perhaps be illustrated by caribou, in this case those about York Factory, although there might be some question whether or not their decline was the result of overhunting. Marest in the 1690's said the best hunting was for caribou (Tyrrell, 1931: 127), and Jeremie, who was at York Factory, 1694 to 1714, spoke of large herds (Douglas and Wallace, 1926: 38). In the 1740's, Isham said that the natives there killed many caribou (Rich, 1949: 81) as did Ellis (1749: 85). But by 1837, McLean stated that the caribou were gone and that the Indians had to live upon hare and fish (Wallace, 1932: 195). Natural changes tend to occur uniformly over an area, but man-induced changes are sporadic, occurring here and there in response to historical circumstances. This poses a problem when attempting to define subsistence areas within the eastern subarctic. For several historical reasons many species have been depleted at varying rates in different regions. Accordingly, observers at different times and in different places may well make what appear to be conflicting statements. This does not seem to be too great a problem at the present level of investigation, but it would cause serious difficulties if a more refined mapping of subsistence areas were attempted.

Since changes both in the fauna and in the economic life of the peoples have occurred since contact, the regional variants that emerge must be placed in some time perspective. Accordingly, three periods have been provisionally proposed — 1600 to 1800, 1800 to 1900, and finally from 1900 to 1960. The region included in this study has for its western boundary the Nelson River and Lake Winnipeg; northern boundary, Hudson Bay and Hudson Strait; eastern boundary, the Atlantic Ocean; and southern boundary, the north shore of the St. Lawrence, approximately the 48° N. latitude in Quebec and in Ontario swinging north to about latitude 50° N., or roughly the eastern half of Dice's Hudsonian Biotic Province (1943: 10–13).

The southern boundary corresponds in general to the northern limit of wild rice (Steeves, 1952: Fig. 4: 112) and maple trees (Anon., 1956: 240–61) and the southern boundary for caribou (Anon., 1958: 33), at least in the latter case for the twentieth century. South of this line, the economy of the native inhabitants differed in certain important ways from the economy to the north. Wild rice and maple sugar were important additions to the diet, and, in general, a much more mixed economy prevailed, with agriculture practised to a certain extent by some groups.

It seems appropriate to begin this study with data from the twentieth century since they are more detailed and complete than for any other period. Special regard is given to the Mistassini Cree of south-central Quebec, the Attawapiskat Cree of the west coast of James Bay, and the Round Lake Ojibwa of northern Ontario. For each of these groups there is detailed information regarding the game taken for periods of from nine to twelve months, and all the data were acquired between 1947 and 1958, thereby negating to some extent changing environmental conditions which have been operative during the past two to three hundred years. What cannot be controlled are the differential rates of acculturation these peoples have undergone. Although the majority of the peoples of the eastern subarctic are today engaged in a trapping economy with subsidiary involvement in commercial fishing and wage labour, a large part of the food consumed by them comes directly from the land. Though no account is taken in this paper of the seasonal variations in game secured, an attempt has been made to evaluate it on a yearly basis. Admittedly, this approach has its shortcomings since often an observer, present only during one particular season, has stressed the importance of the particular species taken at that time. This does not apply, though, to the three groups mentioned above.

Mammals ('big game' and 'small game'[1]), birds, and fish are the major categories of food derived from the environment; these will be considered in detail. Vegetal foods are of little importance throughout the entire area although there were apparently greater variety and dependence in the past as one moved westward. Many general and specific statements have been made since the turn of the century concerning the economic base of the Cree-Ojibwa, a number of which appear contradictory.

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[1] 'Big game' here refers to moose, caribou, bear, and beaver; 'Small game,' to all others such as hare, otter, mink.

Wissler generalizing for the New World commented:

> "Yet all these foods (moose, deer, muskox, fish, waterfowl) were merely supplementary, for the people pinned their faith to the caribou and developed their whole feeding and clothing complex around this animal" (1922: 5).

And Driver said:

> "The people of the Sub-Arctic area . . . subsisted primarily on caribou and moose meat" (1961: 25).

Flannery referring to the Northeast said:

> "Moose, bear, beaver, and caribou were the more important game animals, but a number of smaller ones . . . were also hunted. In the spring and fall geese and ducks were a welcome addition to the diet in many sections" (1946: 264) and ". . . fishing was of value all year round . . ." and ". . . was of special importance in the summer . . ." (1946: 265).

Burgesse made the following comment:

> "The staple article of food for the Canadian Indian was decidedly not moose or caribou. Most often it was fish, rabbit, squirrel and other small fry . . ." (1940: 35-6).

Skinner states:

> "The great mainstay of the Indians of the north in the winter is the vast quantity of rabbits. In the winter these form the staple food" (1910: 82–3).

For the eastern part of the area under discussion here, Speck said:

> "the beaver, the northern Indian's meat staple" (1924: 271).

And Watt reiterates this point:

> "Roast beef was never so important to the English as beaver meat to the Indian" (1938: 26).

While Lips contends:

> "The principal sources of meat for the Indian family are caribou, moose, bear, and beaver" (1947: p. 391).

Davidson said of the Tête de Boule:

> "The moose, beaver, and rabbit furnish the principal food supply" (1928: 23).

Anderson for the James Bay area makes a distinction between the 'coast Indians' and 'inlanders.' He says:

> "The outstanding characteristic of the coasters was their fondness for, and depenence on, the migratory birds . . ." while "Beaver meat for the inland Indian was next in importance to fish" (1961: 126).

And to the south, Johnson reported of the Lac Barriere Band that:

> "They depend principally on the moose for their food supply . . ." (1930: 31).

Finally, Dunning adds the following for the Pekangekum Band:

> "During the winter season beaver and muskrat are heavily relied on for the meat supply, in addition to hares when available. Large game, at present mostly moose, are taken throughout the year except in mid-summer . . . . For a large part of the year, especially the warmer months, fish is relied upon almost entirely as the staple food" (1959: 24).

As can be seen from the above, there tends to be a diversity of opinion as to what foods were important to the peoples of the eastern subarctic. This does not appear to be the result of mis-information but rather points up the varied food resources that were relied upon throughout the area because of seasonal variations, fluctuations in game densities over the years, and regional differences in habitats. The regional variations implied in the comments quoted above are confirmed by studies made among the three groups mentioned earlier — the Mistassini, the Attawapiskat Cree, and the Round Lake Ojibwa.

THE MISTASSINI CREE

From July 1953 until July 1954, ethnographic field-work was carried out among the Mistassini Indians by the author and his wife.[1] The Mistassini referred to here included, in addition to the Mistassini proper, the Nichicun, the Neoskweskaw, the Chibougamau, and part of the Nemiscau peoples. Detailed observations of the amount of native foods secured by one hunting group, that under the leadership of Alfie Matoush, were made while accompanying them from late August until early June (*See* Rogers and Rogers, 1959: 130–138). This group comprised thirteen individuals ranging in age from about one year to approximately forty years and consisted of two married males, two teen-age males, two married women, one teen-age girl, and six children. During the spring of 1954 a girl was born, increasing the group to fourteen.

The following data are given in more or less outline form for convenience of presentation. The topics covered are population, extent of area exploited, the density of population, location, a general résumé of the environment, native foods eaten and those avoided, a tabulation of game taken during the period of observation, and finally an evaluation of the game-take data. This format will also be followed for the Attawapiskat Cree and the Round Lake Ojibwa.

Population: 646[2]

Area Exploited: 42,500 sq. mi.

Population Density: 1 person/ 66 sq. mi.

Location. The lands exploited by the Mistassini Indians are situated about Lakes Mistassini and Albanel and extend northward of the headwaters of the Eastmain River in south-central Quebec. This block of territory is roughly halfway between Lake St. John and James Bay.

Environment. The country of the Mistassini is part of the Precambrian Shield overlain with glacial debris with occasional outcroppings of bedrock. The country is relatively flat with only low hills here and there. The climate is continental with long cold winters and short, relatively warm summers. The January mean is − 3.2° F and the July mean is 62.2° F (Godfrey, 1949: 3). Snowfall is quite heavy, averaging around 60 inches (Anon., 1957: Plate 28). The country is dotted with lakes, ponds, streams, and rivers, with patches of muskeg here and there. These all form an interlocking network. Taiga covers the area although more open stands occur in the northern sector, which is composed principally of black spruce and larch, but white spruce, Banksian pine, white birch, and poplar also occur. Streams and lakes are frequently bordered with willows and alders. Shrubs, herbaceous plants, mosses, and lichens also occur.

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[2] Through the kindness of Mr. Wilfred Jeffreys, who in 1953–54 was manager of the Hudson's Bay Company post at Lake Mistassini.

Faunal resources appear meagre although adequate documentation for this statement is difficult to secure (*See* Cameron and Morris, 1951: 122; Godfrey, 1949: 12). Twenty-eight species of mammals are indigenous to the Mistassini area, and of these, fifteen, or about 53 per cent, are taken for food. Those eaten are caribou, bear, beaver, otter, muskrat, hare, squirrel, lynx, woodchuck, fisher, skunk, porcupine, marten, and mink. Moose are eaten, but they are a recent arrival in the country of the Mistassini. A number of species are not eaten, generally the smaller ones—dog, wolf, all species of fox, ermine, flying squirrel, chipmunk, mice, shrew, and mole. Ninety-six species of birds frequent the area some time during the course of the year (Godfrey, 1949), and of these, twenty, or approximately 21 per cent, are common items in the diet. These include the larger forms such as loon, duck, goose, owl, grouse, and ptarmigan. Few waterfowl nest in the area. Although the smaller species of birds are not taboo as food, they are only resorted to in times of famine. Nine species of fish are utilized for food—whitefish, lake trout, speckled trout, pike, walleyed pike, common and red sucker, burbot, and sturgeon. The latter is found only in the western part of the area.

Quantities of Game Taken:

TABLE 1

Matoush Hunting Group — 1953–54

Game	Numbers Taken	Weight[1]	Weight by Group
		lb.	lb.
Fish	1,582	3,165	3,165
Moose	10	4,000	
Caribou	12	1,500	
Bear	1	210	
Beaver	55	2,120	7,830
Hare	76	114	
Muskrat	120	240	
Porcupine	6	60	
Mink	132	33	
Squirrel	33	8	
Marten	5	5	
Otter	11	138	598
Loon	11	44	
Geese	12	67	
Ducks	132	231	
Ptarmigan	301	150	
Spruce Grouse	75	38	
Ruffed Grouse	2	1	
Owl	2	1	532
		GRAND TOTAL	12,125

[1] The weights of edible food are based, wherever possible, on White (1953), otherwise they are estimated on the basis of personal observations.

Evaluation of Data. The above figures represent the numbers and poundages of game secured by the Matoush hunting group between the latter part of August 1953 and early June 1954, or during a period of approximately nine months. The figures do not represent what was actually consumed by the members of the group since some game was fed to the dogs and used as trap bait. On the basis of direct observation, all the meat derived from mammals, except for some of the smaller ones, was eaten, never given to the dogs. The same is true in general for birds. Such is not the case for fish, which were relied upon heavily for dog food and trap bait. It is probably safe to say that about 1,500 pounds of fish were used in this manner and that 1,500 pounds were utilized by the people themselves as food. Accordingly, the figures given in the table must be modified slightly. It seems reasonable to say that 1,500 pounds of fish, 8,000 pounds of mammals, and 500 pounds of birds were actually consumed by the Matoush group. In addition to this country game, 4,500 pounds of store food were utilized, making a grand total of approximately 14,500 pounds of food eaten in nine months. This means about four pounds to a person daily, not an unreasonable figure considering the heavy labour

TABLE 2

Peetawabano Hunting Group — 1912–14

Game	Numbers Taken		Weight[1] lb.		Weight by Group lb.	
	1912–13	1913–14	1912–13	1913–14	1912–13	1913–14
Fish	7,300	3,306	14,600	6,612	14,600	6,612
Moose	1	—	400	—		
Caribou	—	2	—	250		
Bear	3	3	630	630		
Beaver	59	67	2,360	2,680	3,390	3,560
Hare	6,022	1,642	9,033	2,463		
Muskrat	26	55	52	110		
Porcupine	—	—	—	—		
Mink	9	4	2	1		
Ermine	10	3	2	1		
Squirrel	—	—	—	—		
Marten	53	21	53	21		
Otter	9	8	90	80	9,232	2,676
Loon	18	—	72	—		
Geese	—	—	—	—		
Ducks	40	140	70	245		
Ptarmigan	100	66	50	33		
Spruce Grouse	—	—	—	—		
Ruffed Grouse	—	—	—	—		
Owl	—	3	—	2	192	280
			GRAND TOTAL		27,414	13,128[2]

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[1] The weights of edible food are based, wherever possible, on White (1953), otherwise they are estimated on the basis of personal observations.

[2] The large differences in the amount of game secured during these two periods may reflect changes in the availability of store foods.

the people performed. A point of interest is the great dependence still placed on (country) game, which accounts for 70 per cent of all foods eaten.

Although the above figures may represent accurately the situation as it occurred among the Matoush hunting group, does a similar situation hold for all other Mistassini hunting groups inhabiting the area? No definite answer can be given. It can safely be said that variations undoubtedly existed simply because of differences in game distributions. For example, caribou are found primarily in the northern part of the country and moose in the southern part, though nowhere are either plentiful. And yet informants from other hunting groups stressed 'big game' as a staple food whenever it could be obtained. The Matoush group may represent an approach to the ideal situation as the people envision it, though in actual practice store food, small game, and fish may have played a more important role in the food economy of many groups.

Anderson gives the game-take for a Mistassini hunting group headed by Peetawabano, for the years 1912–13 and 1913–14, each year covering the period from fall to spring. The group was composed of the leader, his wife, a twelve-year-old son, the leader's married son, and his wife and infant (1961: 102) (*See* Table 2).

On the basis of the data given by Anderson, it is readily apparent that the resources in the Mistassini area have varied considerably over time. Moose, of course, would not be expected to play a very large role in the diet since they were just beginning to enter the area. Caribou had already decreased greatly in number by the end of the last century (Low, 1897: 70L). Accordingly, fishing played a much greater role in the economy than it did in 1953–54 and accounted for about 50 per cent of the game secured. It is not known, though, how much was fed to the dogs and used for trap bait. As can be seen, hare are of importance when plentiful, and beaver provide a substantial amount of food. If the food secured during the three years as presented in Tables 1 and 2 is divided into four groups, fish, 'big game,' 'small game,' and birds, a picture of change over time emerges (Table 3).

TABLE 3

Percentage Breakdown of Mistassini Game-Take

Game	1913	1914	1954
	%	%	%
Fish	53	50	26
Big Game	12	27	65
Small Game	33	20	5
Birds	1	3	4

Although it is perhaps hazardous to generalize on the basis of the above percentages, since they represent only isolated hunting groups, certain features do stand out. First and foremost is the minimal use of birds. Second is the decreasing importance of fish. This is confirmed on the basis of informants' testimony (Rogers and Rogers, 1959: 134). A third point is the increasing importance of 'big game.' Although caribou have greatly decreased in numbers, moose have entered the area, and through planting and protection beaver have increased, allowing the Mistassini to rely more heavily on 'big game.' Little can be said regarding 'small game.' Although its utilization would appear to have decreased over the years, this may be purely an accident of sampling since the cyclic fluctuations in game densities are such that the figures could well be meaningless.

THE ATTAWAPISKAT CREE

The following account of the Attawapiskat Cree and the area they inhabit is based on the reports of J. J. Honigmann (1956 and 1962*b*), who carried out field-work among these people from July 1947 until June 1948 and again in the summer of 1955.

Population: 468
Area Exploited: 15,000 sq. mi. (approx.)
Population Density: 1 person/ 32 sq. mi.

Location. The area exploited by the Attawapiskat Cree is situated on the west side of James Bay extending from the Lawaski River on the south to Hudson Bay on the north and from the coast of James Bay west to the headwaters of the Sutton and Ekwan rivers and about one hundred and twenty-five miles up the Attawapiskat River.

Environment. Although the Attawapiskat Cree live within the eastern subarctic, the nature of their country varies considerably from that found at Mistassini in south-central Quebec. The country is low, being nearly at sea-level, with a few low ridges here and there. In reality it is a coastal plain, part of the Hudson Bay Lowland, with few outcroppings of bedrock. Snowfall averages between 30 and 40 inches (Anon., 1957: Plate 28). Temperatures are much like Mistassini—the January mean is −10° F, and the July mean is 55° F (Anon., 1957: Plate 21). There are a number of streams but few lakes and ponds. Along the coast of James Bay there is a narrow grass-covered fringe, back of which occur stands of willow and 'juniper brush' for a short distance. Behind this and stretching inland is the taiga, composed of black and white spruce, balsam fir, larch, poplar, and inland also birch and cedar. There are vast tracts of muskeg, and these cover the land, in some cases extending for one hundred and fifty miles into the interior (Honigmann, 1962*b*: 9).

The area appears to be poor in faunal resources, although the inventory of mammals is similar to that of Mistassini except for the addition of polar bear in the north, and seal and white whales along the coast.

Honigmann (1956: 41) does not specify any game animals, birds, or fish that were forbidden as food but merely mentions several parts of particular species that were restricted. This is in contrast to the Mistassini. Nevertheless, some mammals were, as a rule, only eaten when there was a scarcity of other foods. These included fox, skunk, otter, mink, seal, mice, wolf, white whale, and dog. Bird life was similar to that listed for Mistassini except for the addition of an abundance of Blue and Snow geese. Most of the larger species were taken and consumed, especially during the spring and fall when extremely large numbers of waterfowl entered the coastal area, which is a part of the Mississippi flyway. Not only do large numbers pass through the area, but a number remain during the summer to nest. The various species of fish found here are similar to those encountered at Mistassini. Sturgeon and lake trout are only to be found, however, in the interior.

Quantities of Game Taken:

TABLE 4

Attawapiskat Cree — 1947–48

Game	Numbers Taken	Weight[1]	Weight by Group
		lb.	lb.
Fish	24,860	49,720	49,720
Moose	15	6,000	
Caribou	11	1,375	
Bear	3 (2 cubs)	300	
Beaver	400	15,400	23,075
Hare	4,770	7,155	
Muskrat	2,700	5,400	
Porcupine	—	—	
Mink	80	20	
Squirrel	1,280	320	
Marten	—	—	
Otter	200	2,500	
Fox	56	224	
Skunk	16	80	
Ground Hog	slight		
Ermine	slight		
Seal	slight		
Deer	1	100	15,799
Loon	120	480	
Geese	1,720	9,632	
Ducks	2,800	4,900	
Wavy	6,280	21,980	
Ptarmigan	480	240	
Spruce Grouse	480	240	
"Grouse"	1,528	2,139	
Owl	64	32	39,643
		GARND TOTAL	128,237

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[1] The weights of edible food are based, wherever possible, on White (1953), otherwise they are estimated on the basis of personal observations.

Evaluation of Data. Much the same cautions apply to the Attawapiskat data as to the Mistassini data. The figures given by Honigmann are stated to be the actual numbers eaten by the people. Presumably, additional game was secured for dog food and trap bait. I have utilized his numbers but have recalculated the weights in accordance with the game weights utilized to obtain the poundages for the Mistassini figures. Of interest here is the great reliance placed on waterfowl. The following table summarizes the situation for the Attawapiskat Cree.

TABLE 5

Percentage Breakdown of Attawapiskat Game-Take

Game	Weights by Groups	Percentage
	lb.	
Fish	50,000	39
Big Game	23,000	18
Small Game	16,000	12
Birds	40,000	31

THE ROUND LAKE OJIBWA

The following data were derived during a year's residence, from July 1958 to July 1959, in the village of Round Lake on the shores of Weagamau Lake, northern Ontario (*See* Rogers, 1962).[1] The information as to the amounts of game taken differs in part from that given for the Mistassini. At Mistassini one large hunting group was observed continuously for approximately nine months, and all the game secured was recorded in so far as possible; at Round Lake this was not done. Instead, twenty-one hunters were interviewed with regard to their take the previous year and, in some instances, with regard to what they had been able to secure during the period of field-work. In several cases, such as for moose and caribou, rather reliable data were secured. In the case of smaller game, informants could generally give only the roughest of estimates. And yet cross-checking tends to bear out the reliability of the data. As far as fur bearers are concerned, the author had access to the records of the Department of Lands and Forests, and accordingly this information is dependable. By extrapolating from the estimates made by the twenty-one hunters a value was arrived at for the game-take of the entire community.

Population: 229

Area Exploited: 5,000 sq. mi. (approx.)

Population Density: 1 person/ 22 sq. mi.

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[1] This work, made possible through the generosity of The Globe and Mail, Toronto, was sponsored by The Royal Ontario Museum, University of Toronto. To both organizations the author wishes to express his gratitude.

Location. The area inhabited by the Round Lake Ojibwa centres at Weagamau Lake in northern Ontario some two hundred miles north of Sioux Lookout, Ontario.

Environment. The country is underlain with Precambrian rocks and covered in most places with glacial sands and gravels. The land is relatively flat with a few low ridges here and there. Streams are numerous, as are ponds and lakes, and are all linked to form a network over the landscape. Patches of muskeg occur throughout the region. The climate is typically continental with long cold winters and short, relatively warm summers. The January mean is −18° F, and the July mean 59° F. Snowfall is not so heavy as in the Mistassini area, averaging between 30 and 40 inches (Anon., 1957: Plate 28). Forest cover, which is part of the taiga, is similar to that found at Mistassini. There is at least one difference (based on personal observations): aquatic vegetation appeared much more abundant and luxurious in the area of the Round Lake Ojibwa than in the territory of the Mistassini. Faunal resources are much more numerous than at Mistassini on the basis of game returns for a given extent of territory, although it is perhaps hazardous to arrive at such a conclusion in this manner.

Quantities of Game Taken:

TABLE 6

Round Lake Ojibwa — 1958–59

Game	Numbers Taken	Weight[1]	Weight by Group
		lb.	lb.
Fish		25,000 – 50,000	30,000
Moose	88	35,200	
Caribou	37	4,600	
Bear	13	2,700	
Beaver	417	17,900	60,400
Hare	7,500	11,200	
Muskrat	3,758	7,500	
Porcupine	—	—	
Mink	819	200	
Squirrel	947	270	
Marten	1	1	
Otter	136	1,700	
Fox	4	16	
Fisher	8	16	
Lynx	15	225	21,128
Loon	210	840	
Geese	300	1,700	
Ducks	900	1,600	
"Grouse"	1,800	900	5,040
		GRAND TOTAL	116,568

[1] The weights of edible food are based, wherever possible, on White (1953), otherwise they are estimated on the basis of personal observations.

The inventory of mammals, birds, and fish is similar to that for Mistassini. Of the twenty-five species of mammals listed for Round Lake, fourteen, or about 55 per cent, were used for food. It was explicitly stated that dogs, wolves (?), skunk, and ermine were never eaten. Others such as bats, chipmunks, mice, and shrews were never observed being eaten and presumably never were. All species of the larger birds were consumed, except raven and crow, which, it was said, were never eaten. The small birds were not, as a rule, utilized. All the larger species of fish were considered edible.

Evaluation of Data. The above figures represent in most cases estimates of game secured by the Round Lake Ojibwa during the course of one year. It does not, however, equal the actual amount of food consumed by the people, which was less than that given here. It is difficult to state, with any degree of confidence, the amount of food actually eaten. This can only be done on the basis of informants' testimony and general observations. The Round Lake Ojibwa stressed the importance of fish in their diet, and observations confirmed this. Nevertheless, large amounts of fish were fed to the dogs and used for trap bait. It would seem safe to say that 25,000 pounds of fish were used for food. Mammals pose a problem. Informants did not emphasize them as an item of human food, and observations suggest that large amounts of meat were fed to the dogs; for example, moose meat. But exactly how much cannot be stated with any degree of reliability. Probably much of the small game except hare was wasted. On the other hand, hare appeared to be a basic food. It is suggested that as much as 10,000 pounds of big game and 5,000 pounds of small game were not utilized. Presumably, most if not all birds were eaten. In summary the following table is thought to represent the situation as closely as possible.

TABLE 7

Percentage Breakdown of Round Lake Game-Take

Game	Weights by Group	Percentage
	lb.	
Fish	25,000	26
Big Game	50,000	53
Small Game	15,000	16
Birds	5,000	5

SUBSISTENCE AREAS: 1900–1960

Several problems arise in connection with the preceding data when an attempt is made to delineate subsistence areas within the eastern subarctic of Canada. First and perhaps most important are the cyclic fluctuations in numbers encountered among some of the smaller species of game such as lynx, hare, and grouse, which are of some importance to the Cree-Ojibwa. Since this is the case, do any of the figures given for the three groups represent 'normal' years; or, for instance, are the percentages biased because of an abundance of a particular species or a lack of it? Unfortunately, no adequate data are available to solve this question. Since no answer can be given, the figures must be accepted with due caution.

A second fact is that there are erratic fluctuations in game numbers because of over-trapping and hunting, epizootics, and forest fires, which upset the native subsistence pattern. For example, beaver have been decimated in many areas, and only through closed seasons and planting have their numbers been increased. Or, as in the case of the Mistassini, quotas have been established for beaver, and only a specified number can be taken during the course of any one winter. A further complicating fact is the gradual northward advance of certain species, most notably moose. Seventy-five years ago there were no moose in the territories of any of the three groups specifically dealt with in the preceding (Peterson, 1955: 17; and informant's testimony for the first and last groups).

Another fact, although of lesser importance, which at times no doubt affected game-consumption figures, was native food preferences. As noted for each group, certain species were avoided when other game was available. In general, no form of food was overlooked if the species was large enough or numerous enough to warrant the energy expended in securing it. The Attawapiskat Cree appear to have been more dependent upon a wider variety of game than the other two groups, probably because their environment was so poor in natural resources.

The introduction of European foods still further complicates the picture. Over the years greater reliance has been placed on food coming in from outside. Government relief has been one means whereby the native peoples have secured these foods. A second complication has arisen through the exchange of furs for food. In years when fur prices have been high and fur bearers numerous, more reliance undoubtedly has been placed on store foods, thereby altering the food quest patterns.

A final point should be made. As fur trapping increased in importance, more small game, such as mink, were accordingly taken and consumed by the people. Formerly, a mink, for example, represented approximately one-third of a pound of food, whereas today it represents this plus whatever food its pelt purchases, thereby warranting the energy expended in its capture.

Keeping the above in mind, it still seems possible to delineate several subsistence areas within the eastern subarctic which are valid for the present century. Three such areas can be outlined on the basis of the data given for the Mistassini and Attawapiskat Cree and the Round Lake Ojibwa and on information contained in the literature.

In 1953–4, the Mistassini Cree still relied heavily upon country game. Of the three types—mammals, birds, and fish—the former was the most important, accounting for 70 per cent of the total game consumed, with big game alone being 65 per cent of the total. The Mistassini at this time can be considered 'big game' hunters but not depending upon any one species and utilizing other forms of game as supplementary foods. This latter is important during those times when big game is difficult to secure, especially during the summer months. Then fish and store food are the mainstays.

The Round Lake Ojibwa closely resemble the Mistassini Cree in the food quest. Mammals supplied 69 per cent of the country food with big game being 53 per cent of all foods consumed. Although big game accounts for a large part of the food, small game, especially hare and fish, was important, more so than at Mistassini, except during the early part of this century, at which time the diminution of the caribou and the slowness of the moose to enter the area had forced the people to depend more on small game.

The Attawapiskat Cree present quite a different food quest pattern. Here the three types of country game approximately equal each other in importance. Mammals account for 30 per cent, birds 31 per cent, and fish 39 per cent of all game taken. No one source can be said to form the mainstay of their subsistence as was the case among the Mistassini. The importance of waterfowl, on the other hand, cannot be stressed too greatly. It stands in sharp contrast to the other two groups. Wavy (Snow geese) and other geese rank second to fish, supplying 29 per cent of all game taken. Among the Attawapiskat Cree, waterfowl and fish are a main source of food with other game playing a subsidiary role.*

The situation for all three groups is summed up in the following table.

TABLE 8

Percentage Breakdown of Game-Take: Mistassini, Attawapiskat, Round Lake

Game	Mistassini			Round Lake	Attawapiskat
	1913	1914	1954	1959	1948
	%	%	%	%	%
Fish	53	50	26	26	39
Big Game	12	27	65	53	18
Small Game	33	20	5	16	12
Birds	1	3	4	5	31

On the basis of the preceding data, two major subsistence patterns may be defined initially for the eastern subarctic during the twentieth century. The first is that found among the Attawapiskat Cree. This pattern might be referred to as a WATERFOWL–FISH subsistence economy (Map I). This form is found among those Indians who inhabit the Hudson Bay Lowland, an area extending from the southern end of James Bay northward on the west side of the Bay to Cape Henrietta Maria and then west to the area of York Factory – Churchill, Manitoba. It extends inland a variable distance. This region is within the Mississippi flyway, and accordingly large numbers of waterfowl pass through in spring and fall and even nest in the area. It is this condition that provides the basis for the economy. Hanson and Currie write, "In the Hudson-James Bay region the return of Canada Geese and other waterfowl may mean a reprieve from a starvation diet, especially when staple food animals have undergone a cyclic decline in numbers" (1957: 215). And "in autumn the hunts along the coasts for Blue and Snow Geese take precedence over all other activities.... Many of the geese shot at this time are smoked and dried or salted down for use during the winter..." (1957: 216). An examination of Table 4 in Hanson and Currie (1957: 224) clearly indicates the importance placed on waterfowl by those Indians inhabiting the Hudson Bay Lowland in contrast to those farther inland. Within the former area, the average annual kill per hunter varied as follows in contrast to those inland: in 1953–4 each coastal hunter took fourteen times more waterfowl than

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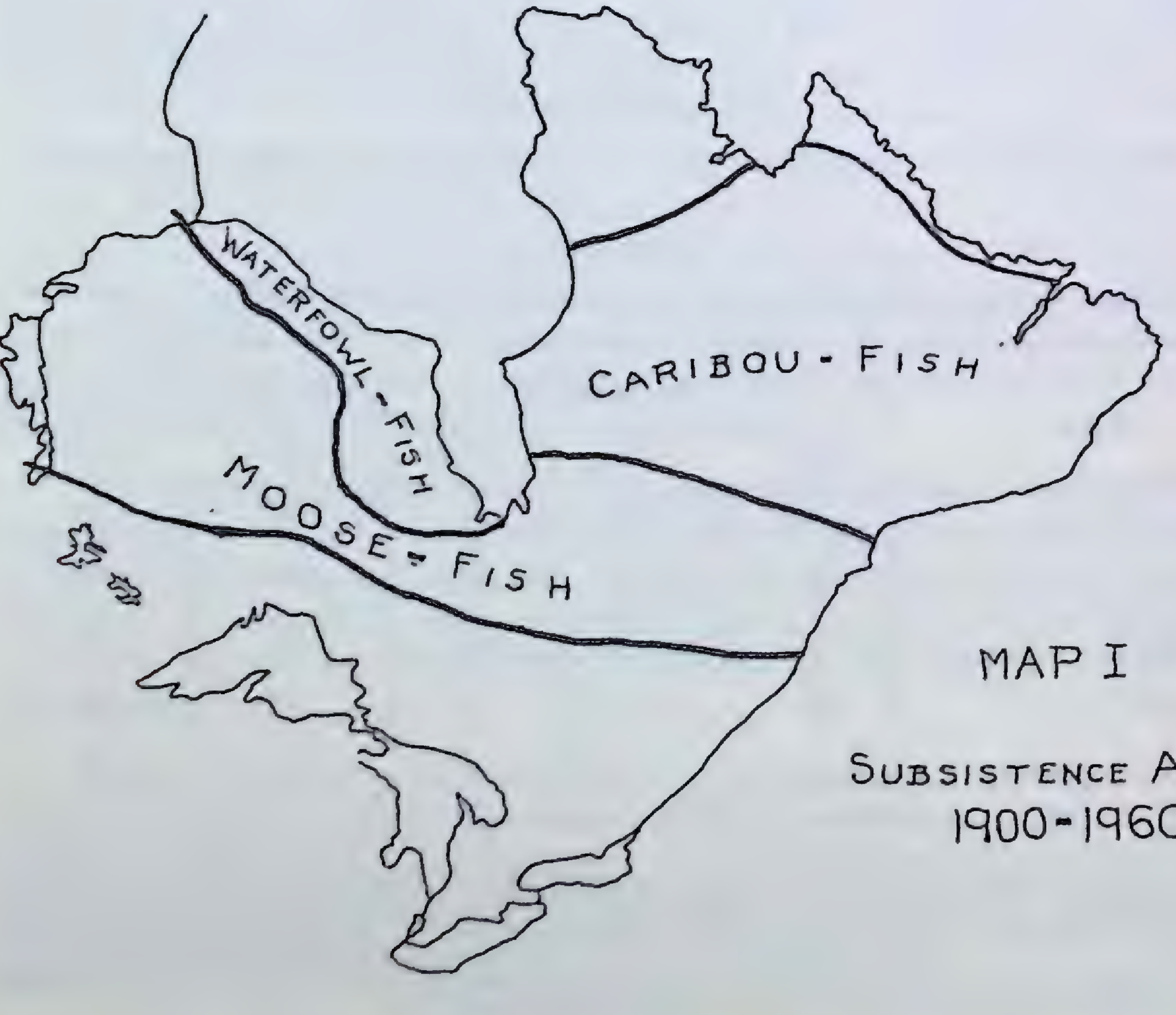
*Mr. Campbell Currie, Ontario Department of Lands and Forests, on the basis of many years of personal experience, does not feel that fish are nearly as important as indicated here.



MAP I

SUBSISTENCE AREAS
1900-1960

his inland neighbour: in 1954–5 forty-one times more, and in 1955–6, eight times more. The value placed on waterfowl is dramatically portrayed by Bishop Renison in speaking of the Indians of Fort Albany (1957: 31–2). On the basis of the above, the following Indian groups can be included within the 'Waterfowl-Fish' subsistence economy: Fort Severn, Winisk, Attawapiskat, Fort Albany, and Ogoki. Moose Factory and York should perhaps also be included. Additional data for the twentieth century are lacking, but what has been reported seems sufficient to establish the importance of waterfowl to the people of this area in contrast to other sectors of the eastern subarctic.

Only the most meagre information exists as to the importance of fish in the economy of the Indians of the Hudson Bay Lowland. Liebow and Trudeau state of Winisk that "Fish and geese were the dietary mainstays during the early summer . . . " (1962: 194), and for the period 1903–05 it is reported that the Indians in the Winisk-Attawapiskat area lived principally on fish (Miller, 1912: 132). It can only be surmised that fish were of major importance, and this seems reasonable in view of the fact that game animals do not appear to have been numerous in this region. In addition, hare were of considerable importance during the winter (Skinner, 1911: 25).

The second subsistence pattern is more variable in certain ways than the 'Waterfowl-Fish' economy. It is represented by the Mistassini Cree and the Round Lake Ojibwa and might be termed the MOOSE–FISH subsistence pattern. Its variability is the result of several factors. First is the fact that moose are a relatively recent addition to the faunal resources of the eastern subarctic. Since 1875, moose were entering the territory of the Round Lake Ojibwa and the Attawapiskat (Peterson, 1955: Fig. 8: 46) and Mistassini Cree. Since then they have continued to move north of this limit in small numbers. As moose moved into an area they appear to have been quickly integrated into the native economy, their capture and utilization being based on that employed for caribou or else acquired by diffusion from neighbouring groups who were already acquainted with the moose. At the same time or perhaps slightly before, caribou decreased greatly in numbers (Anderson, 1946: 180; Harper, 1961: 139–144; Cameron and Morris, 1951: 129).

A second factor, referred to previously, is the variation in game densities over time due to over-trapping, cyclic fluctuations, epizootics, and forest fires. Unfortunately, sufficient data are lacking to present a clear and consistent picture of these events.

A third factor is the variation in game densities, increasing in general from east to west within the eastern subarctic. For example, Rostlund estimates that northern Ontario is twice as productive of fish as northern Quebec (1952: Table 4: 65). Personal observations suggest that Rostlund is unduly cautious. For moose in Ontario the same situation is suggested (Anon., 1958: 32). Further support for the idea that game densities increase westward is reflected in the number of square miles necessary to support an Indian and his family as one moves toward the Manitoba border.[1] Accordingly, with an increase in game densities a more diversified subsistence pattern may emerge. This is what appears to have happened in the subsistence area under discussion, although game densities never increased to such an extent that only one or two species were sufficient for survival.[2]

The 'Moose-Fish' subsistence economy can be viewed as encompassing southern Quebec and central Ontario. The Indians of this general area subsisted, though, on a variety of game, with moose and fish of basic importance. Skinner said of the Saulteaux, "Of the game taken, the moose is the most important, and many are slaughtered annually" (1911: 134), and this is attested for the Mistassini Cree and Round Lake Ojibwa. Fish are seen to be important for these last two groups and were also stated to be important to the Mistassini by Rousseau (1949: 36). Watt reports that the Ungava Indians lived primarily on fish during the summer (1939: 34). This would appear to be the case for most Indians of the eastern subarctic during the first half of the twentieth century. Although this was true, the area was far from uniform. In the east, the emphasis was on big game including beaver (*See* Speck, 1924: 271; Watt, 1938: 26; Anderson, 1961: 126). This may have resulted from the fact that small game, although present, occurred in such small numbers that it was not economically worth exploiting them systematically. Certainly, this seems to be the case for the Mistassini. As one moves westward, although big game remains important in the economy, small game, especially hare, and fish assume a much more important role in the diet. The 'Moose-Fish' subsistence pattern must be thought of as one which has been changing over time and in its major extent has come into existence only within the last century.

If the two areas already outlined are valid, there remains one region within the eastern subarctic unaccounted for. This encompasses most of the Labrador Peninsula. There is no question but that caribou have been

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[1]

	sq. miles/person
Great Whale River	100.0 (Honigmann; 1962*a*: 5)
Mistassini	66.0 (Rogers, 1963:22)
Waswanipi	93.0 (Davidson, 1928*b*: 46, 47, 57–9; based on data there and the assumption that there are approximately three persons per married male)
Grand Lake Victoria	55.6 (Davidson, 1926: 91, 93,95)
Attawapiskat	32.0 (Honigmann, 1962*b*: 19)
Winisk	100.0 (Liebow and Trudeau, 1962: 191)
Round Lake	22.0 (Rogers, 1962: A2, B8)
Pekangekum	12.3 (Dunning, 1951: 49)
Berens River	6.2 (Hallowell, 1949: 40)

[2] An interesting problem emerges here. The time and energy necessary for a hunter to exploit his environment will vary depending upon the density of the game sought, and this has a bearing, therefore, on what game he will seek. Perhaps two examples will make this clear. At Mistassini, for example, where game densities were low and mammals were dispersed, a hunter needed several hundred square miles in order to support his family. Since this was the case, a hunter had to expend a great deal of energy and time in traversing the area in search of food. To secure enough meat to compensate for this loss in energy, small game, it is suggested, would not be sufficient, and hence the hunter must secure big game. Small game was merely supplementary. Farther west, for instance at Round Lake, where less territory was needed by a hunter to support himself and his family, the energy expended in exploiting the area was less, although probably not a great deal less than at Mistassini. Nevertheless the game is more concentrated, allowing a greater yield in a specified length of time. Since this is the case, enough small game along with fish could be taken to supply the bulk of the food necessary, with less reliance on big game. Under such a situation human factors would be responsible for the subsistence pattern that might emerge.

the staple food of the inhabitants of this area. A number of twentieth century observers have stressed the importance of this animal (Strong, 1930: 2; Cabot, 1922: 197, 210; Hubbard, 1908: 155–81; McGee, 1961: 56–7; Leacock, 1954: 25; Tanner, 1944: 695), but its rapid decline in numbers (Harper, 1961: 129–38) has of course seriously lessened its importance in the economy of the people. Along with the caribou, fish appear to have been of some importance in the diet (*See* McGee, 1961: 56; Cabot, 1922: 187; Watt, 1939: 34; Tanner, 1944: 614, 617, 623). On the basis of this information, a CARIBOU–FISH subsistence pattern can be postulated for the inhabitants of the Labrador Peninsula.

Three subsistence areas have now been tentatively outlined for the first half of the twentieth century for the eastern subarctic of Canada: CARIBOU–FISH, MOOSE–FISH, and WATERFOWL–FISH. Although these three areas are felt to be valid, not all the Indian groups inhabiting them participated equally in such an economy for the past fifty years for a variety of reasons, such as the differential effects of varying rates of acculturation, the movements of game, and the decrease in game populations in certain sections.

SUBSISTENCE AREAS: 1800–1900

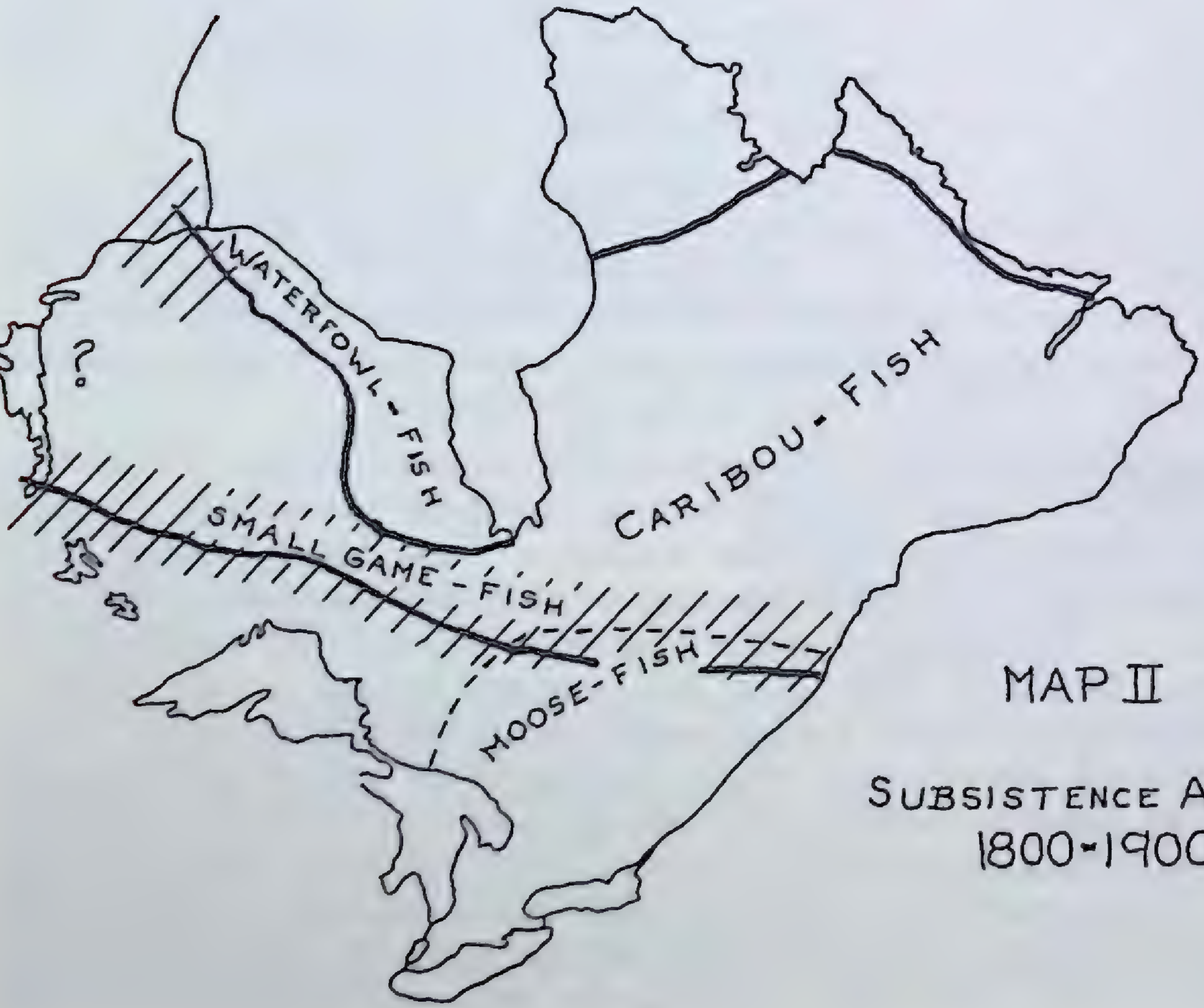
As pointed out in the *Introduction*, because changes have occurred in the faunal resources of the eastern subarctic the mapping of subsistence areas must be placed within some time dimension. Therefore three periods were chosen albeit rather arbitrarily. The first, covering the present century, has already been discussed. The second, covering the nineteenth century, is presented in the following paragraphs.

As the Cree-Ojibwa peoples during the 1800's had much less contact with Euro-Canadians than they have today, there has been less frequent note made of their way of life. No detailed lists of the game taken for food by any one group are known to exist. Since this is the case, generalized statements and casual observations must be relied upon in order to attempt to delineate subsistence areas during this century.

Beginning with the 'Waterfowl-Fish' economy (Map II), is there any evidence for such a pattern existing during the last century ? Franklin in 1819 spoke of the importance of geese at York Factory, but it is not clear if they were for native consumption or to feed the traders (1827: 39). McLean, in 1837 stationed at York Factory, also said that waterfowl were important (Wallace: 1932: 195). Rae, who was surgeon for the Hudson's Bay Company at Moose Factory some time in the 1840's, wrote that the Indians spent four to five weeks, starting at the end of April, hunting ducks and geese along the coast, and again seeking waterfowl in the fall, at which time large numbers of geese, boned and dried, and quantities grease were prepared for winter use (1882: 485–6). Rae goes on to state that hare were important, but when they became scarce the Indians had either to fish or spend much time searching for 'deer' (caribou) or other large animals (1882: 486–7). A report made in 1886 states that the Indians of Fort Severn lived mainly along the coast, hunting up the small streams and subsisting chiefly on the geese killed in spring and fall (Miller, 1912: 103). The importance of waterfowl is substantiated by Barnston, who, writing in 1862, stressed waterfowl as an important part of the diet of the Indians living along the coasts of James and Hudson bays (1862: 7832). He estimated the numbers taken as follows:

Albany	17,000 to 20,000 (fall) 10,000 (spring)	30,000
Moose Indians		10,000
Rupert's River		8,000
Eastmain and north including Eskimo		6,000
Severn coast		10,000
York, Churchill, and Eskimos to north		10,000
		74,000

Honigmann, in making a reconstruction of Attawapiskat culture, tends to stress the importance of fish in the diet (1956: 36, 39, 40). Waterfowl, according to his testimony, do not seem to have been important (1956: 39), but there is no indication of what might have taken their place.



MAP II

SUBSISTENCE AREAS
1800-1900

Aside from Honigmann's remarks there is even less information about the importance of fish in the diet than of waterfowl. Harmon in the early 1800's said that those 'Swampy Cree' who lived about lakes depended largely on fish (Lamb, 1957: 204), and McLean in 1837 said of the Indians of York Factory that they subsisted upon fish and hare as well as waterfowl (Wallace, 1932: 195). In 1886 it was reported that along the Attawapiskat River sturgeon apparently constituted the principal food of the Indians (Miller, 1912: 77). Although the data are far from conclusive, it does seem that during the nineteenth century a 'Waterfowl-Fish' subsistence pattern existed in the Hudson Bay Lowland, though perhaps not with the intensity observed in the twentieth century.

Within the Labrador Peninsula there is no doubt of a 'Caribou-Fish' economy since it has been emphatically stated in the literature. Hind has said, "The caribou is the mainstay of the Montagnais and Nasquapee [*sic*] races: it is to them as important as the buffalo is to the Prairie Indians" (1863: I: 213–4), and Hind had visited both areas. Others have stressed the importance of caribou or implied it in their writings (Comeau, 1954: 151–6; Wallace, 1932: 261; Turner, 1894: 276; Low, 1897: 48L; McKenzie, 1960: 412). Outside the Peninsula there is less evidence. Young said that many of the Nelson River Indians lived on 'deer' (1890: 116). Richardson, speaking apparently of the entire eastern subarctic, said that 'reindeer' were of most importance to the Indians (1851: II: 51).

As for fish, Richardson placed whitefish next in importance to caribou and mentioned the fact that the translation of the native term for whitefish was 'caribou of the water' (1851: II: 51). McLean, when stationed at Fort Chimo, reported that fish were important in the diet (Wallace, 1932: 261). Yet Hind stated that fish were scarce and difficult for the Montagnais-Naskapi to catch during the winter, and, if the caribou failed, the natives faced hard times (1863: I: 248). In northern Ontario, except in the Hudson Bay Lowland, fish appear to have been one staple, at least along with caribou. It is reported that in 1886, 'weirs' had been laboriously constructed along the Cedar River in the western territory of the Round Lake Ojibwa for the capture of sturgeon (Miller, 1912: 96) and that at Trout Lake (54° N. latitude and 90° W. longitude) large whitefish and lake trout were the principal food of the Indians (Miller, 1912: 96). In the same year it is said that the Indians about Lake St. Joseph lived principally upon fish in summer and hares in winter supplemented by such animals as caribou (Bell, 1887: 11G). This stands in sharp contrast to what Skinner said about twenty years later concerning the Indian's food for this region when he stressed the importance of moose which must have moved into the area in the intervening years (1911: 134). Anderson (1873), who in the summer of 1852 made a round trip from Red River to Moose Factory by way of the Albany River, gives the impression that the Indians lived at this time of year on fish. Although unfortunately the above accounts were summer observations and do not necessarily reflect the subsistence pattern throughout the year, the variety of equipment that was used for fishing (*See* f.n., p. 84) suggests the importance of fish in the annual diet, as pointed out by Honigmann for the Attawapiskat Cree (1956: 36).

Adequate evidence is lacking to do more than to say that fish, although important, were presumably never the sole means of support and that caribou, hare, and other mammals played a larger role than implied above. Tentatively, then, this section of the eastern subarctic might be placed with the 'Caribou–Fish' area of the Labrador Peninsula. Although evidence is lacking, a 'Moose–Fish' subsistence pattern must have existed to some extent in the southeastern part of the area under consideration. But during the latter part of the nineteenth century moose began to migrate northward (Peterson, 1955: Fig. 6: 17), and as they spread out, caribou decreased in numbers. It would appear though that caribou disappeared in certain areas in advance of the arrival of moose, thereby causing the natives to seek other forms of game for food. This would then explain why certain observers such as McLean (Wallace, 1932: 195) and Bell (1887: 11G) have stressed the importance of hare and fish (Simpson, 1847: 32) at dates when caribou were scarce and moose had not yet entered the area. With the northward advance of moose, the 'Moose–Fish' subsistence area increased in extent until it came to occupy the territory as defined for the first part of the twentieth century.

SUBSISTENCE AREAS: 1600–1800

Turning now to the last period, 1600–1800, a difficulty is immediately encountered. Data are scarce or non-existent for most of the area. Those which exist can often be interpreted in several ways, since quantitative data were never recorded and therefore travellers' impressions must be relied upon. It is perhaps dangerous to attempt to outline subsistence areas, but a few observations (or speculations) might profitably be made. In general, most observations were made by explorers who ventured along the margins of the area under discussion. Penetration of the country was not undertaken until the latter part of the seventeenth century. During the 1660's Radisson is supposed to have reached James Bay from Lake Superior (Adams, 1961: 146, note 114), and in 1672 Albanel arrived at Rupert House, having passed overland from Lake St. John (Thwaites, 1899: LVII: 149–217). During the next century, further thrusts were made into the interior by various trading companies as the tempo of the fur trade increased. Henley House was established by the Hudson's Bay Company in 1741, about one hundred and fifty miles upstream from the mouth of the Albany River (Voorhis, 1930: 80). To the south, the French had built a post on Lake Abitibi some fifty years earlier (*Ibid.*: 28). Following these, additional posts were established inland during the remainder of the century.

For a large part of the eastern subarctic, caribou would certainly seem to have been important in the native diet during this period. Albanel in 1670, referring to several groups or bands of Montagnais-Naskapi who inhabited the country inland from Godbout, stated that they had a few caribou, very few beaver, and a few fish for food (Thwaites, 1899: LIII: 89). Marest, writing during the 1690's, said that the best hunting about York Factory was for caribou (Tyrrell, 1931: 127). Laure, in 1730, stated of the Mistassini Indians that they subsisted upon caribou and fish (Thwaites, 1900: LXVIII: 47). Isham, at about the same date, speaks of the dependence the natives of the area surrounding York Factory placed on caribou (Rich, 1949: 81). Cartwright, whose observations were made during the last quarter of the eighteenth century, says of the Montagnais-Naskapi in the southeastern corner of the Labrador Peninsula that caribou were important to them (Townsend, 1911: 349). Accordingly, at least for the greater part of the eastern subarctic, the Indians apparently relied heavily upon caribou for their subsistence.

Albanel and Laure, as mentioned above, speak of fish as a source of food almost on a level with caribou, and Albanel in 1672 goes further and says that at Nemiscau, before the Iroquois scattered the people, their main food was fish (Thwaites, 1899: LVI: 183). Toward the end of the eighteenth century, Long states that at Tadoussac the Indians lived on fish (Thwaites, 1904: 193). This immediately raises the question of how fish were secured. There is a suggestion that the gill net was not aboriginal in the northern part of the eastern subarctic. Round Lake Ojibwa informants and several of Skinner's Saulteaux informants contended the net was not aboriginal (1911: 137) and that they did not have the gill net until the latter part of the nineteenth century when traders supplied them with twine. Le Jeune, in the second quarter of the seventeenth century, said that the Montagnais obtained their nets from the Huron and the French (Thwaites, 1897: VI: 309). Cadillac spoke of the use of nets at Mackinac in the 1690's, presumably used by both the Ottawa and Huron (Quaife, 1962: 13). This suggests that the southern groups were familiar with the manufacture of gill nets but that the northern Indians were not, and that at least some of the groups obtained them in trade from their southern neighbours or Europeans. In addition, a note in the Minutes of the Hudson's Bay Company for about 1680 requested that a net maker be sent to the Bay to teach the Indians the art so that they might secure fish for food on their trips to and from the posts (Rich, 1945: 297). Albanel says he gave a fish net to some Montagnais who, according to him, received it with joy (Thwaites, 1899: LIII: 89). Cameron suggests in his writings that the Indians of the Nipigon District did not know how to make gill nets but obtained them from the traders (1960: 255). Finally, the nets shuttle and gauge used by the Indians of the eastern subarctic are similar to those formerly used in Western Europe and dissimilar to those employed in the western subarctic, which were precontact (Giddings, 1952: 36).

Accordingly, the northern Cree-Ojibwa appear to have lacked the knowledge of net making, but a few groups at least obtained them in trade from neighbouring Indian groups and later from European traders. If this was the case, were the Indians able to exploit the fishery resources of the area ? There is no reason to doubt that they did, especially those groups in the western half of the area. Throughout, hooks and spears seem to have been common, and in the southern half of the area weirs and fishing by torch light were familiar to the native inhabitants.[1] These devices were known during this century and in some instances at an even earlier date. No evidence has come to light to suggest that they were not aboriginal. If this is the case, then Albanel's, Laure's, and Long's statements can be taken at face value. It can therefore be suggested that a 'Caribou–Fish' subsistence area (Map III) existed over much of the eastern subarctic but with fish much more important in the western than in the eastern half.[2]

As for the Hudson Bay Lowland, no adequate evidence has come to light to determine what the subsistence pattern might have been. There even is the question of whether all or even a part of this area was inhabited until after trading posts were established along the coast and the Indians were attracted out of the interior. Presumably referring to the latter part of the seventeenth century, Rich states that Cree were living about the south end of James Bay but gives no source for his information (1942: xxxi). If Radisson actually did reach James Bay in 1661, there were certainly Indians there during the summer at least (Adams, 1961: 146). He goes on to state that waterfowl were taken but does not indicate to what extent (1961: 146). Ellis, who wintered at Port Nelson in 1746–7, said that the natives there took waterfowl, although there is no indication of their real importance (1749: 86). A report for 1783 states that at Fort Albany geese were so scarce that fall that the Indians left the post early because of the fear of starving (Rich, 1954: 160). Perhaps a 'Waterfowl–Fish' subsistence area did exist during this period, but it seems unwise to say more until archaeological work is undertaken in the area and a thorough search made of the archival materials.

Although a 'Moose–Fish' subsistence pattern was apparently absent from the area under discussion during the period 1600–1800, it might be wise nevertheless to say a few words about the country just south of 48° N. latitude in Quebec between Tadoussac and Three Rivers. This area and presumably that to the southwest seem to have been centres for a 'Moose–Fish' subsistence pattern. Le Jeune, in 1634, said of the importance of eel and moose to the Montagnais living between Quebec City and Tadoussac "that, during the months of September and October, they live for the most part upon fresh eels; in November, December and often in January, they eat their smoked eels, some porcupines (136) which they take during the lighter snowfalls, as also a few Beaver, if they find them. When the heavy snows come, they eat fresh Moose meat; they dry it, to live upon the rest of the time until September; and with this they have a few birds, Bears, and Beavers, which they take in the Spring and during the Summer" (Thwaites, 1897: VI: 277). And to the southwest on Manitoulin Island, Perrot records for the winter of 1670–1 that the Indians there took more than 2,400 moose (Blair, 1911: I: 221). These two sources indicate that moose was important in the food economy of the inhabitants of these two places and that fish (eel), certainly along the upper St. Lawrence, was vital.*

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[1] *Hooks* (employed throughout the area)
Turner, 1890: 280: 321; Hind, 1863: I: 202; Rogers, 1965; Honigmann, 1956: 36; Cooper, 1928: 460; Jenkins, 1939: 23; Speck, 1935: 120; Skinner, 1911: 28: 137.

Torch Light Fishing (employed in the southern part of the area)
Hind, 1863: I: 98–101; Thwaites, 1897: VI: 311, 1904: 116; Jenkins, 1939: 24; Skinner, 1911: 37.

Spear (apparently employed throughout the area for various species of fish: sturgeon and salmon being mentioned specifically)
Rogers, 1962: A23; Miller, 1912: 131; Cooper, 1928: 460; Thwaites, 1897: VI: 311; Anderson, 1873: 77: 80; Rogers, 1965; Nevin, 1847: 58; Cabot, 1922: 187; Speck, 1935: 120; Hind, 1863: I: 99; Skinner, 1911: 27: 137.

Wiers and *Traps* (employed in the southern part of the area)
Miller, 1912: 93; Cooper, 1928: 460; Rich, 1949: 168; Anderson, 1873: 71: 97: 34; Gov't. Report, 1901: Photo opp. 221; Rogers, 1962: A23; Thwaites, 1897: VI: 309; Skinner, 1911: 137.

[2] There is the question as to what part seal may have played in the economy of some of the groups inhabiting the north shore of the St. Lawrence. *Le Jeune*, in 1634, speaks of the Montagnais killing seal but does not give the impression that they were very important (Thwaites, 1897: VI: 313). Laure, in the early 1700's, suggested that seal were important for the group wintering near Les Escoumins (Thwaites, 1900: LXVIII: 83). Later accounts mention seal-hunting but do not emphasize it as an important economic pursuit. It may be that further investigation will reveal a 'Seal–Fish' subsistence pattern along some of the coastal areas of the North Shore.

If Peterson is correct in stating that there were two centres in eastern North America from which moose spread northward after glaciation, one to the east of the Great Lakes and one to the west (1955: Fig. 5: 16), the 'Moose–Fish' subsistence pattern, it is suggested, also expanded northward into the region under discussion in this paper from these two centres on either side of the Great Lakes. Although it is perhaps immaterial from where such a pattern came, it is of interest that in northern Ontario a special technique is used in the capture of moose by paralleling the animal's trail (Rogers, 1962: Fig. 16: C43). This technique, so far as the writer knows, has not been reported east of here. It has been reported for the Cree (Richardson, 1829: 234) and said to occur among certain of the Athapaskan peoples to the northwest: Kaska (Honigmann, 1949: 64), Fort Nelson Slave (Honigmann, 1946: 36), Tanaina (Osgood, 1937: 34), Chipewyan (VanStone, 1963: 12), and perhaps the Tanana (McKennan, 1959: 48). It might be thought that this custom had diffused from the Athapaskans to the Cree-Ojibwa of northern Ontario as have perhaps other traits, such as the pointed snowshoes used in moose hunting. But perhaps not. This technique may have developed as a cultural trait to the west of the Great Lakes and diffused from there as the moose moved into northern Ontario and as far as the Yukon Territory (*See* Peterson, 1955: Fig. 6: 17). Even the pointed snowshoes may have had a similar history although presumably at a much earlier date. The late overlapping of the two races of moose immigrating from the two refuge areas (Peterson, 1955: Fig. 7: 17) might account for the absence of this technique for hunting moose from the eastern part of the area, where as yet it has not had enough time to diffuse into the area.

SUMMARY

The above data, although nowhere near so detailed and complete as one would wish, do nevertheless give some picture of the varying patterns of subsistences among the Cree-Ojibwa who inhabited the eastern

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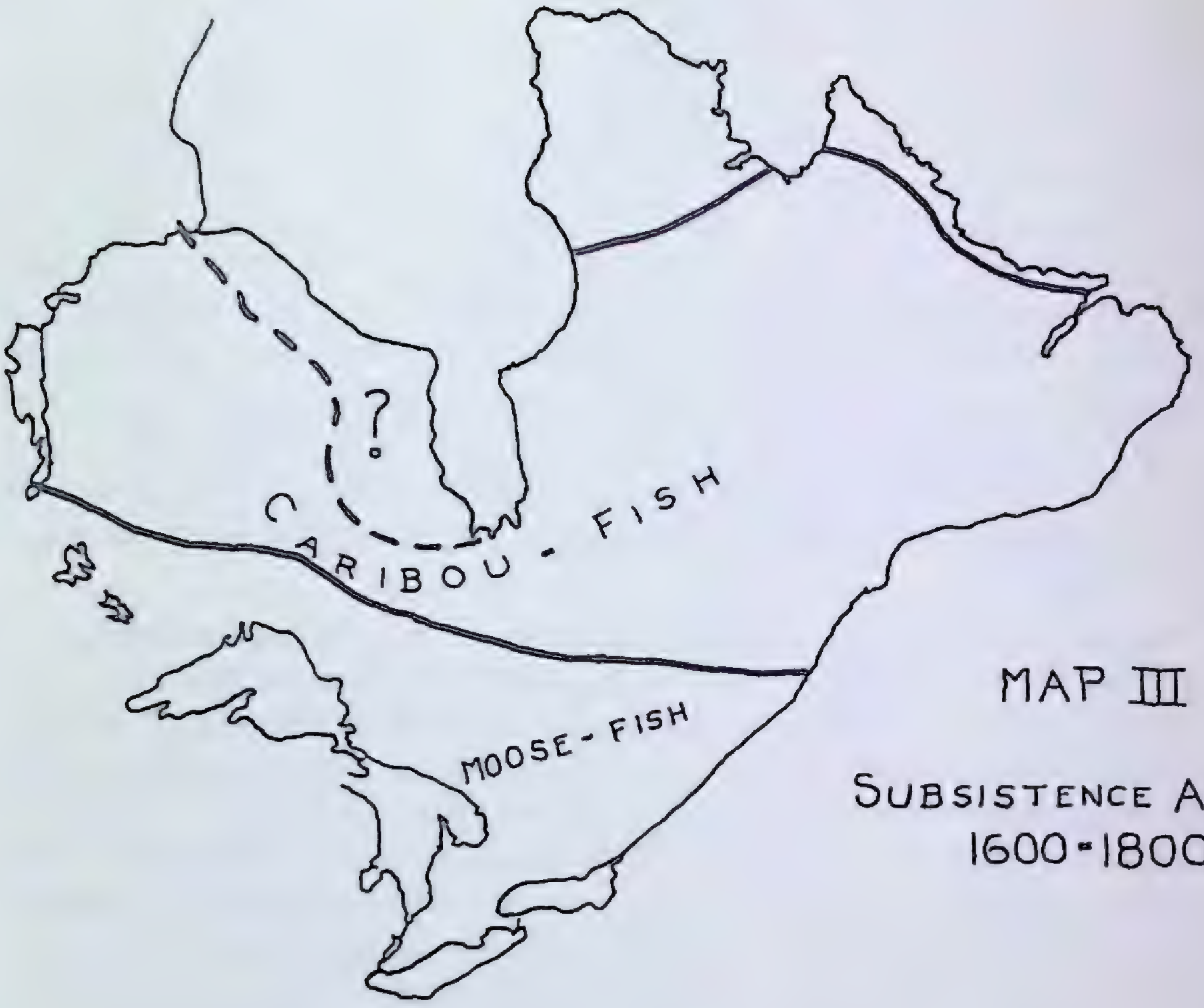
*Dr. C. H. D. Clarke, Chief Biologist, Ontario Department of Lands and Forests, has pointed out to me that moose never inhabited Manitoulin Island, and therefore Perrot was undoubtedly referring to caribou. I wish to thank Dr. Clarke for bringing this to my attention.



MAP III

SUBSISTENCE AREAS
1600-1800

subarctic during the past three hundred and fifty years. Three major subsistence patterns have been isolated: CARIBOU–FISH, MOOSE–FISH, and WATERFOWL–FISH. Throughout the entire eastern subarctic, fish appear to have been a basic food resource for the entire time under consideration. In general, fish seem to have been more important in the western part of the area than they were on moving north into the Labrador Peninsula. The species of fish sought varied somewhat from region to region: eel was important in the upper St. Lawrence, whitefish in the interior, and sturgeon in the western part of the area. No attention has been given to this regional variation in this paper.

The 'Caribou–Fish' subsistence pattern has shrunk greatly in areal extent over the years. From the time of contact and lasting for one hundred and fifty to two hundred years, this pattern persisted over most, if not all, of the eastern subarctic. But during the nineteenth century this situation began to change as caribou became less numerous in the southern part of the area and later farther north. By the beginning of the twentieth century, the 'Caribou–Fish' subsistence area was pretty well confined to the Labrador Peninsula. At present, it hardly exists anywhere. With the decrease in the numbers of caribou, adjustments in the food quest had to be made. It appears that moose did not immediately replace caribou, but rather there existed a time lag of twenty-five to fifty years (perhaps longer in some sections) before moose moved north and became plentiful. Accordingly, a zone existed between the main 'Caribou–Fish' and 'Moose–Fish' subsistence areas and moved northward as the areas shifted in extent. Within this zone, the inhabitants had to rely upon small game and fish. If data were of sufficient detail, it might have been possible to delineate a 'Small Game–Fish' subsistence pattern.

Commencing in the latter part of the nineteenth century, the 'Moose–Fish' subsistence pattern began to expand as the moose moved north until by mid-twentieth century it encompassed southern Quebec and central Ontario.

Within the Hudson Bay Lowland, a 'Waterfowl–Fish' subsistence pattern has existed for the past one hundred and fifty years. On the basis of the available data, it is hazardous to carry the pattern further back in time, but it may have existed since the time of contact.

Today, these subsistence patterns are being radically altered as the eastern subarctic is being opened up, especially to mining operations and other forms of activities, and the Indians are becoming more and more involved in wage labour, foregoing their former economic pursuits.

The impression must not be left that the species mentioned as being basic to a particular area were the only ones taken for food. Much, if not all, of the eastern subarctic as understood in this paper was a relatively unproductive area; accordingly the native inhabitants often had, of necessity, to supply their food requirements with a great variety of game.

Within the eastern subarctic, changes have occurred in the areal extent of the various subsistence patterns during the past one hundred and fifty years or thereabouts. These changes have resulted from several factors, mentioned at the beginning of this paper. First, the environment, presumably owing to natural causes, has altered. Second, the environment through the actions of man has been disturbed. Accordingly, these two events, acting in conjunction with one another, seem to explain the observed changes in the distribution of the different subsistence patterns.

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THE OBJECT OF RESEARCH IN MUSEUMS[1]

By Tom F. S. McFeat

OBJECTS AS SPECIMENS

Upon first coming to the National Museum, I was impressed by differences in work habits that distinguished ethnologists from other scientists. These differences obviously centred in the use of collections. The other scientists appeared able to maintain a systematic relationship between their collecting and their analytical procedures; if this was not absent among ethnologists, it was not entirely present either. I must confess I looked across the hall at the trays of specimens being regularly wheeled to the work tables of the archaeologists and felt some envy; it seemed as though they were being served afternoon tea with crumpets while we could find only starvation rations in the ethnological pantry.

My early museum moodiness was not relieved by sitting upstairs with the collection, for it seemed it was no longer ours—I could see it only as the heritage we were about to pass on to another kind of anthropologist, the ethnohistorian. One insistent question called from almost every object in the collection: Where are the data? The ethnohistorians seemed to be the only ones with the techniques which ultimately would provide the needed answers. It was clear that an ethnologist could no longer go to the field with the expectation of learning more about objects in the collection than he already knew; as matters stood, he could tell the Indians more about the objects than they could tell him. Perhaps, then, ethnologists no longer belonged in museums.

It seemed that this question—the appropriateness of ethnology to museum research—had to be settled first by considering the *object* as such,[2] asking whether or not an object must be part of an ethnologist's research resource in a museum. In this respect, one is perhaps asking whether or not a museum must collect objects. At first the answer seems obvious: How could one imagine a museum without its objects to display—this enters into the very definition of a museum's activities. On the other hand, one's definition of a museum, as of any cultural institution, can change through time and in different ways in different social environments. Dr. Fenton's recent description of the classical museum as a community of scholars and apprentice scholars which is similar to the modern research institute is not the museum one knows today; today's museum (none of us at this session can deny) is undergoing fundamental changes; perhaps these will ultimately point in the direction of the classical museum.

Our museum employs linguists and folklorists who do not collect objects and who spend no time in analysing objects. If ethnologists must find a *raison d'être* that inheres in objects or suffer eventual expulsion, how then does one explain the presence of linguists and folklorists in this museum? I think this question most appropriate to the discussion of objects and museums since the linguists and folklorists behave very much as do archaeologists and physical anthropologists: they collect in the field and they return to the museum in order to analyse their collections. The fact that archaeologists collect objects while linguists collect utterances is a point of difference between them which surely has no great significance as far as research is concerned. Furthermore, the utterances that the linguists collect are far more useful for analysis than are the objects the ethnologists collect, when they do collect them. This fact applies to their differences, whether or not the group from which collections are being drawn is highly acculturated or relatively untouched by contact.

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[1] This is an expanded version of a paper read at the Conference of Museums and Anthropological Research, held at the National Museum of Canada, Ottawa, October 25–26, 1963.

[2] I would, however, draw your attention to an earlier paper "Museum Ethnology and the Algonkian Project," Anthropology Paper No. 2, National Museum of Canada, 1962, in which I dealt with problems of field research.

What provides common ground for the work of the archaeologist and the linguist is that they collect, hold, store, and analyse *specimens*, not objects, and that their specimens are of no intrinsic interest as objects (or utterances) in matters of museum display. The display people have rarely been able to rise above the formidable task of making such specimens interesting; on the other hand, masks, seamless boxes, dug-out canoes, musical instruments, carvings, and other *objets d'art*, and all the various tools, instruments, and weapons of the peoples the museum represents are compelling in their own right. When a viewer, looking at a birchbark canoe, drools romantically over his image of the *noblesse sauvage*, administrators can feel happy since he has been counted at the door and may return to be counted again. Why should displayers care about the distinction between objects and specimens when the public apparently does not? But museum ethnologists had better look to the objects in the collections and decide which are specimens and which are not. If they look at enough objects as potential specimens, they may in time begin to feel these can be a worthwhile research resource. And even if they continue to avoid involving themselves in research on collections, they are not excused from facing the problem of what an ethnological specimen may be.

What, then, are the requirements that make an object into a specimen? For an initial broadside one should perhaps turn to the most demanding of task-masters, Malinowski. He wrote:

> Even if you spoil a district of all its material objects, and bring them home without much bothering about a careful description of their use . . . such a museum collection will have little scientific value, simply because the ordering, the classifying, and interpreting should be done in the field with reference to the organic whole of native social life.

This statement is sensible on the face of it, but Malinowski, in referring use and context to a more general category of belief, continues, ". . . every belief is reflected in all the minds of a given society, and it is expressed in many social phenomena . . . it is present in the social reality of an overwhelming variety, very often puzzling, chaotic and elusive."[1]

In spite of Malinowski's insistence on a use context, one must concede that objects have a certain prior right to being collected whether or not they are in context; in the same sense a potsherd must be collected whether or not it is *in situ*. It is potentially part of a series and therefore potentially a specimen as well as an object. And whether or not an object should be collected is dependent upon other considerations, not the least of which concerns size (What does a museum do about houses, temples, and the like?). Also, even though objects should fit in a series, one finds that one must in principle hedge a little should objects not be at least once removed from the common purview. Ojibwa Indians one hundred miles north of Ottawa make good birchbark canoes, and they drive old trucks; but a 1963 bark canoe is a more desirable collection piece than Sam Oldtomb's 1948 Chevy. This Chevrolet may be of greater interest in 2063 than it is in 1963 and possibly even of more interest than the 1963 birchbark canoe. Where principle gives way, it is to expediency: one does not draw from the tens of thousands of items that are now familiar to acculturated Indians and Eskimos if these are Euro-American in origin. But no one has said why one should not do so. Perhaps one should conclude that there is something akin to a mystique in an object which, along with its companion objects from a given area, tells of the way of life of a people. We may not know exactly why; we may only have to recognize that humans everywhere are surrounded and even hemmed in by their materials, and if social scientists do not know how to deal with this fact in some insightful way, one can hardly blame the objects for it. But let us return to the Malinowskian discontent.

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[1] Malinowski, B. Magic, Science and Religion, 1954, p. 238–9.

It appears that an object may be regarded as a specimen when it is the receptacle of information pertaining to one or more of the following Linton-Barnett categories: form-principle; use-function; meaning-value. In time, and with the growth of great sophistication in ethnology, it may be possible through some ethnological topology or some ethnometric calculus to unlock information pertaining to all these categories. Until then, however, it is necessary to think of *object + data = specimen*, where by 'data' one means notes, measurements, drawings, charts, graphs, photographs, and models, and by 'object' one means something not too big to send back to the museum by freight.

Supporting data must be a part of all specimens, even though they say no more than 'it came from there'; in this sense the supporting data are intrinsic to the object, for there may be nothing written that says anything about the object. At the opposite end of this *object + data* continuum, one can easily see that supporting data are so completely abundant that the object itself is more or less forgotten; put another way, information is so complete that one could reconstruct the object. But it is even more complete than that, for it tells things that the object cannot possibly tell us. To put the matter concretely: Does one sacrifice learning the history and role of the horse and the gun in Plains society by not having horses or guns in the collection? Does one learn less about the significance of the automobile in contemporary Navaho society by reading Vogt's 1956 paper in the "Transactions of the Fifth International Congress" than by going to the Ramah-Navaho area and collecting the automobiles? Both answers seem clearly to be *NO!*

Why, then, from the point of view of research does one bother with objects? Since one is well aware that a great deal of ethnological research goes on in museums without respect to objects, I should like to advance six propositions that have to do not only with research but with museums, and not only with museums but with the ethnologists in them:

1. Museum activity is that of collecting, classifying, analysing, holding, and preserving specimens;
2. Some specimens never take the form of objects (i.e., utterances, folktales);
3. Some objects either cannot or very likely will not ever be used in research;
4. The vast majority of museum holdings in objects either cannot be or are not being used in research today;
5. Most North American Indian objects are part of dead traditions; nothing new can at present be learned about them pertaining to context;
6. Museums must continue to collect objects, for one cannot tell what information they contain that is at present inaccessible; one can at present not know their future significance as specimens.

PROGRAMME, PROJECT, AND STUDY

I find it remarkable that even though one recognizes the human environment as mostly man-made and talks of technology as a 'cultural screen,' social theorists depict man as though he were naked and without possessions. Dyads, triads, and families have interactions; religions have belief and ritual; economies have production and distribution; governments have power. But one is not made aware that persons and groups also all live in three dimensional space, that they manipulate it, cut it up and nail it together, and wear it. If these facts are embarrassing to anthropologists, it is perhaps because they want to look at personality, society, and culture without encumbrances. They do not look upon the encumbrances as part of personal, social, and cultural life, and therefore as having to be considered an intrinsic part of the phenomena under examination.

It is possible however to predict a different future interest in anthropology, particularly as technology in our own societies (and especially in our universities) increasingly dictates the limits of permissible deviation in human behaviour. University examinations are written for a machine when they are about to be corrected by a machine; they are also set for a machine. Thus, the student-professor relationship is mediated throughout by a machine. Ultimately, the 'Ivory Tower' becomes somewhat automated. It may be, then, that interest in social theory will increasingly project the image of the seepage of the machine culture from the society at large to the image builders in universities, and a new man may emerge, perhaps to be named *homo univacodigitus.* Terrible as this may seem to some (and after all it is under way), the side effects will be interesting for museums. For new interest in objects and the ways in which objects affect, canalize, and limit human behaviour and the general relationship of man to the space he tries to control and transform is a supposed traditional interest of museums. That reawakening is under way we well know. New interest in museums and their objects is everywhere evident; since the interest is new, the requirements for satisfying it are unfamiliar; museum men are at present investigating them. This meeting is a first step.

The National Museum's research programme in ethnology has been spelled out in some detail in the Museum's 1962 publication of Anthropology

Paper No. 2. There I argued that research under organized conditions in a large, yet limited, area should operate at three levels: *programme, project,* and *study.* I should like to emphasize one or two facts appearing in that publication.

First of all, the proposition that museum activity consists of collecting, classifying, analysing, holding, and preserving specimens (under No. 1 above) was the main point of the paper, and implicit in this view of museum activity (including research) was the notion that one need not address oneself to problems concerning objects as such. I was unwilling then, as now, to concede that objects are specimens.

Secondly, that even though a research programme's relationship to its projects and studies should be more or less systematic, there should nevertheless be a fair degree of free play allowed between them. Thus it seemed desirable to design studies (or accept their proposals from outside the museum) which, though falling within the broadest definition of terms of a programme, were nevertheless in important respects unrelated to the specific goals. How else could innovation take place?

Thirdly, it seemed particularly appropriate that this exploration take place in the field of material culture.

Inasmuch as I was running this programme, I felt I could set a good example by trying to do something in the field. Eugene Arima was, however, the first to launch and complete a study of a single item of culture—an *umiak.*[1] This was a test case in its own way, and it proved successful.

THE MALECITE BASKET INDUSTRY

Different aspects of this study have been reported in two places, once in the Anthropology Papers listed above, and once in "Anthropolica" for 1962. In the latter, the basket industry was compared with the Malecite barrel industry. In both cases, interest was focused on the relationship between technology, work groups, controlled change, and certain considerations of ethnic identity. The centre of it all was the lowly splint basket, which at present is an important item of production on the northern Malecite reserves in New Brunswick. I did not tackle the formidable problem of reconstruction that faced Arima; on the other hand, I did not choose to study an object that could not be collected as did Vogt. The basket is eminently collectable, and if one of its members, the potato basket, is not the most inspiring object in the world, it is an object that captured my interest from various points of view. These points of view I will again express in the Linton-Barnett categories.

FORM

The Malecite basket is not unlike splint baskets that have been collected throughout eastern North America. On the whole, form is easily defined. These baskets are circular at bottom and rim, or circular at rim and square at bottom; they may also be either rectangular (with almost any relation of width to length) or square. These are the basic features of the form, while secondary features have to do with size, combinations of colours, small stamped designs, widths and spacing of splints, shapes woven in or on, and contour (i.e., whether they are vertical, horizontal, concave, convex, or combinations of concavity and convexity) attachments such as handles, legs, catches, lids, and hinges.

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[1] Arima, E. Y. Report on an Eskimo Umiak built in Ivuyivik, P.Q., in the summer of 1960. *in* National Museum of Canada, Bulletin No. 189, 1963.

There are variables enough to consider with regard to form alone, and by visiting museums in order to examine their collections, one may have the satisfying experience of feeling that one is defining a tradition and discovering within it variations of great number. Perhaps one of the more intriguing possibilities in this study is endeavouring to discover the growth of form and, combining this with the formal assimilation of innovative secondary characteristics, the evolution of the tradition itself. Here, however, one runs into a terrible snag: a simple but crucial datum is almost always missing in collections: *when* (and less frequently *where*) *the basket was made*. Possessing these data (even within a decade) one is able to order collections; lacking them, one wastes one's time trying to reconstruct them. Lack of care in the past on the part of various museum collectors suggests to me that the so-called past interest in material culture was not so marked or so widespread as one is led to believe.

In reconstructing the formal aspects of this tradition, one suspects that it began with simple pack and laundry-container type baskets which were large and usually crude in details of workmanship, progressed toward a settling down and widespread standardization of form, and from there (probably in the last decade of the 19th century to the second decade of the 20th in eastern Canada) developed into a proliferation of form based upon multiple and specific consumer uses, and then underwent a decrease in use-defined form to an approach that provides continua of forms with less specific and more general consumer-defined uses. Hair catchers, handkerchief boxes, picture frames, flower vases of the early part of the century were distinctive and easily identified. Today's 'fancy' baskets are less specific, and a number of uses may be suggested for any one of them. 'Rough' baskets show the same characteristics: potato baskets for men, women, and children, and apple baskets are all the same, except for size gradations.

PRINCIPLE

One of the intriguing aspects of baskets is the fact that their technology provides evidence of how they were made and at the same time raises questions as to why they should have been made that way. One is misled by studies of basketry which make it appear as the king of folk industry. It is in no sense this, except by far-distant step-wise extensions from what is now a very remote past. I have heard the hypothesis advanced that the splint basket is of European origin. This might well be true in view of the workshop complex which almost universally accompanies it. The workshop in most places includes crooked knives, a shaving horse, a set of metrically spaced and matched gauges, mechanical splint splitters, and forms or 'moulds.' One can hardly find what is 'aboriginal' in the activity at all, and this is particularly true of the Canadian Woodland Algonkians who made bark containers prior to acquiring baskets; many of them still do manufacture only bark containers.

The most obvious information in the splint baskets concerns first the evidence of the type of tools that were used to make them, for this leads to two inferences: since these tools permit considerable standardization of both form and items, the first inference is that Indians not only permitted but probably required that these objects be produced in large numbers. The second inference comes from examining a splint basket in a manner similar to one's examining a wheel-turned pot; one realizes instantly that this was made for an urban market (or for those who live by it) and was in no technological sense the product of a folk industry.

USE-FUNCTION

The use of the basket can be seen from two perspectives: one may take the point of view either of the consumer or of the producer. The consumer and the producer come, of course, from very different worlds, and it is the consumer who really puts the basket to use. As far as I know, the user of the basket and his influence on the change in its form over the past half century have never been studied.

The conceptual meeting ground between consumer and producer is in the designation of some baskets: *potato basket* has a specific meaning for both. But many of the 'fancy' baskets that are produced for sale in shops and the market place have no clear definition by either party, at least prior to purchase. How they are used after purchase would prove of considerable interest in predicting how change will likely take place in future; some baskets may, for instance, be used as art objects: this could redefine the tradition from craft to art. And form-use features seem to be undergoing innovation anyway; for instance, lamp shades and hats are being produced, and in parts of baskets black ash splints are being replaced by plastic splints.

One test of Dr. Fenton's hypothesis that ethnologists can approach specimens as do archaeologists[1] is to try to infer *function* from specimens. First, could we show the relationship between *principle-form* and the size or nature of the work group, how it is held together, or how it operates in the interest both of production and of the integrity of the family. I doubt that it would even tell us much about the size of a work group. I collected a dozen potato baskets from the Tobique (Malecite) Reserve two summers ago; they are nearly identical. But two of them were made by one person, three by two persons (husband and wife), and the remainder by a much larger organization. The common denominator of all work groups save one is a husband-wife dyad. Could one learn all of this from the basket? Of course not; field-work is needed. On the other hand, I doubt that an archaeologist would try to make inferences as ambitious as this from, say, a dozen burins. I am sure I would not be wrong in imagining that the archaeologist would examine all the specimens from a site. Thus, if one were to look at the basket in relationship to the possessions (the entire material culture) of the work group, one might discover a great deal in the quiet contemplation of these objects that could be overlooked in the hurly-burly of field-work. But again one returns to the problem of what is collectable: Can one strip them naked, empty their houses, and send their workshops back to the museum? One could follow Dr. John Roberts' example of Three Navaho Households and list every item they own. Then perhaps one could conduct an exercise: ask an ethnologist who is not familiar with the area or the problem to do a 'blind reading' of the material culture and to reconstruct from it. He might in the end stir up as much excitement as did the blind readers of the Alorese Rorschach protocol.

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[1] Fenton, W. N. The Museum and Anthropological Research, *in* Curator, Vol. 3, No. 4, 1960, p. 327–355.

Finally, with regard to this category of *function* [and seeing it in relation to *principle* (or technology)], I should like to draw your attention to the fact that this particular technology has given rise to a particular kind of work group, and the contrast between this work group and technology and the work group and technology of the barrel industry among the Malecites has already been dealt with;[1] it is possible indeed to relate these two dimensions of analysis.

MEANING-VALUE

When first trying to make a potato basket, I was visited that day by various Malecites who said, sometimes with odd smiles: "So you want to be an Indian?" or "So you think you're an Indian now!" Remarks of this sort were also applied to me when I went on expeditions collecting black ash in the woods north of the reserve. It appeared fairly clear that activities centering around the manufacture of baskets belonged in a particular context and constituted what Opler would call an *assemblage* of *components* surrounding an *event* which takes on its significance because of its association with particular *themes* in the culture. The *event*, or the event-type, I have in mind is basket-making as such. Following the Opler terminology[2] (which I think is useful for museum research) there is a set of *components* which includes the object, the tools, the workshop, the family, certain kindred defined by limits of range, space around the reserve and hinterland, certain types of producer-client relationships (in which distinctions are made between hawking and selling, between white-Indian symbiosis and white-Indian competition), and conceptions of the relationships between work, energy, and time. These *components* form an assemblage, and different *components* form other *assemblages* with regard to the other *events*, such as barrel-making. However, a more inclusive native concept tends to join certain *assemblages* of components and to exclude others, so that in the final analysis different *events* belong together with their *assemblages*. For purposes of inventing terminology, I would say that a cultural *context* has been established when one finds that two or more *assemblages* are classed under a single explicit category. In this case basket-making and barrel-making belong in different cultural *contexts* and describe different *assemblages;* on the other hand, *basket-making* and *guiding* are different *assemblages* belonging in a single context, and this the Malecites themselves call *Indian Work*. That *context* I analysed in the first of the two papers cited above.

Clearly, the meaning and value or the symbolic significance of the *basket industry* cannot be reconstructed by considering the object or an *assemblage of objects* independent of going to the field or of consulting the data other than the object. This is true because *different assemblages* belong together in a single *context*. One must agree with Malinowski that these phenomena are expressed "in many social phenomena and are present in an overwhelming variety, very often puzzling, chaotic and elusive." When it comes to attempting analysis at this level, his ghost moves fiercely among the objects of the collection.

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[1] McFeat, Tom F. S. Two Malecite Family Industries: A Case Study, *in* Anthropologica, N.S. Vol. IV, No. 2, 1962, p. 233–271.

[2] Opler, M. E. Component, Assemblage, and Theme in Cultural Integration and Differentiation, *in* American Anthropologist, Vol. 61, 1959, p. 955–964.

CONCLUSION

I developed this essay by exposing my misgivings about ethnologists in museums, and I tried to show that these misgivings had to do with the relation of ethnologists to objects. In general, my philosophy of museology has been this: if an object can be regarded as a specimen, the ethnologist should be more than willing to use it as a departure point for or, indeed, the whole course of analysis.[1] I found the Malecite basket industry more than satisfying in this regard. This does not mean, however, that I would agree with those who argue than an ethnologist must address himself exclusively to specimens which are at the same time objects in the collection; I recently considered this problem in the first paper cited above. I have found considerable interest in conducting research on an item of material culture which belongs to a *living tradition* (where I can collect data from the field), but I would not argue the principle that ethnologists should ignore objects as possible specimens if they are part of dead traditions. However, I do not think ethnologists know at present what to do with objects as such, unless they are interested in very special problems. What, then, should one do with the existing collections? I believe we shall sit in on many more sessions similar to this one before such a question will be answered.

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[1] Collier writes, "This means going beyond the traditional problems of museum research . . . to the broader problems of culture change, evolution, ecology, values, symbolism, and patterning *as they are reflected in material culture*." (Collier, Donald, 1961, Museum Ethnological Research, *in* Kroeber Anthropological Society papers, No. 25, p. 150.)

ITIVIMIUT SLED CONSTRUCTION*

BY E. Y. ARIMA

RÉSUMÉ

L'auteur explique le mode de construction des traîneaux esquimaux en planche qui sont en usage près de Povungnituk (P.Q.), sur le littoral oriental de la Baie d'Hudson. Dans son exposé détaillé, il cherche à faire ressortir certains perfectionnements qui ne paraissent peut-être pas à première vue, mais qui entrent tout de même dans la fabrication de cet objet d'apparence relativement simple.

SUMMARY

This paper describes the construction of the Eskimo plank sled presently used around Povungnituk, P.Q., on the east side of Hudson Bay. The building of one particular sled is the basis for a detailed discussion which attempts to show some of the technical refinements that may not be so immediately visible but are deliberately built into this relatively simple-looking artifact.

INTRODUCTION

As one becomes acquainted with the refinements of Eskimo technology, one's admiration for the Eskimo and their ingenious culture increases. Through an intensive study of their material culture one can gain in "feeling for the people," to use the late Professor T. F. McIlwraith's phrase (He deemed the sentiment indispensable for doing ethnography). In recent years material culture has not enjoyed a popular interest among most anthropologists with, of course, the exception of the archaeologists. One way to enliven the subject may be by approaching the artifact more through the people who make it, use it, think and feel about it; who, in short, live with the object. Morten Porsild, fifty years ago, set forth the ideal that

> ". . . one should preferably be able to use the implement which is to be investigated, and preferably, also, be able to make it oneself from the materials, and with the tools used by the aborigines. Because, not until we ourselves have made use of a complicated instrument do we fully understand all its smallest details, which, at first sight, we either do not notice at all, or regard as unimportant for the purpose of the implement, and therefore readily consider them to be peculiarities of style belonging to a certain district or tribe." (1915: 119–20).

As Porsild (p. 116) notes, Fabricius's investigation of West Greenland seal hunting is a classic example of such participant-observation study of material culture ("Otto Fabricius' Ethnographical Works," ed. Erik Holtved, Meddelelser om Grønland, Bd. 140, Nr. 2. Copenhagen 1962).

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*Acknowledgments are due Dr. David J. Damas and Dr. William E. Taylor, Jr., for critical advice and the title.

A Labrador Eskimo sled is a simple-looking thing—two shoed runners lashed to cross-slats—but it incorporates a number of refinements that are not immediately obvious. It has been described before (Cartwright, 1792: 71–2; Turner, 1894: 240–5; Low, 1906: 146–8; Hutton, 1912: 115–7; Hawkes, 1916: 64–6); yet, as a subject for study, it still is not exhausted, and some further details can be added. In 1963 at Povungnituk, P.Q., on the east side of Hudson Bay where the Eskimos have been ethnologically designated Itivimiut, "people on the other side of the land," I was able to observe the construction of a modern plank sled by Davidialuk Alaasuaq, E 9–824. Porsild's ideal conditions, as mentioned above, were not fulfilled, but an effort was made to obtain the views of Davidi and other Eskimos on sled technology. The following account is limited essentially to the sled itself with important related matters such as dogs, driving practices, and socio-economic aspects left more or less untouched. Although some comparisons with other plank sleds in ethnological literature are made, this account by no means attempts to be a comparative study; its focus remains the modern Itivimiut sled.

Runners

Runners are the first requirement in making a sled. Indeed, the very word for sled, *qamutik,* is literally 'two runners,' being the dual form of *qamut,* a runner. On the east side of Hudson Bay, driftwood appears to have been the common material for runners at the turn of the century. Construction was usually of one solid piece. Length varied from 12 to 20 feet, with 16 feet average; thickness from 2 to 3 inches; height from 4 to 8 inches (Low, 1906: 146). Where procurable, living trees were utilized. In Ungava Bay, a larch was usually selected as stronger, though somewhat heavier, than spruce. The runners were roughly hewn out on the spot and were then transported home for finishing. Length was from 12 to 16 feet; height from 10 to 12 inches; thickness from 2½ to 3 inches on the bottom. Top thickness was half an inch less, the runners being tapered from the bottom to the top so that the sides would encounter less friction against the snow, according to Turner (1894: 241).[1] On the Atlantic coast, trees suitable for runners grew as far north as Okak. A sled built there for Hutton was 16 feet long (1912: 115). Farther south along the Atlantic coast at Charles Harbour, Cartwright, nearly two centuries ago, wrote that runners were 21 feet long, 14 inches high, and 2 inches thick (1792: 72). He said the spruce planks were hewn out of separate trees because the use of the pitsaw was not known, but, to speculate, it may be that large trees were abundant enough to allow the use of one tree for just one runner, perhaps to avoid laborious splitting in two and also possibly to get wider planks to keep the crossbars high for soft snow conditions. A 2-inch-square batten which was "close under the upper edges" of the runners to secure their spraddle outwards would have required clearance. Hawkes, who visited the Labrador Eskimo in 1914, says runners were "from 2 to 3 inches thick, 4 to 8 inches deep and 10 to 24 feet long, according to locality" (1916: 64). Today, runners are generally made from dressed lumber brought in for that purpose by the trading company stores. At Povungnituk these planks were of Sitka spruce 2½ inches thick by 10 inches wide by 18 feet long, and cost $21 each.[1]

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[1] In winter at least, mud shoeing would, however, automatically make the runner thicker at the bottom. Metal, bone, antler or ivory shoeing can also possibly be made broader than the wood above. Boas describes a Baffin Land refinement in broad shoeing wherein it is made widest near the front and narrower behind so that in soft snow "while the weight of the load is distributed over the entire length of the sledge, the fore part which is most apt to break through, has a broad face, which presses down the snow and enables the hind part to glide over it without sinking in too deeply" (1888: 530). In Caribou Eskimo (Padlimiut) sleds the runner itself is thickest in the front crossbar region, where it is scarfed; it then tapers to both ends, decreasing in thickness and height on the inner side and under side respectively (Birket-Smith, 1929: 173).

Davidialuk's sled was made with slightly used cracked planks which cost only $12 apiece, thanks to the post manager. To begin construction, the two planks were matched, side by side, and nailed together with two 6-inch nails.[2] The work was raised off the ground. For this, various props may be used: snow blocks, fuel drums, wooden boxes or trestles, whatever is at hand and suitable. With a hatchet Davidialuk roughed out the pointed upcurved front portions, *uirniq*, of the runners. The end of one plank proved to be unusable because of a bad crack. Consequently, 1½ feet were cut off the front ends, shortening the runners to 16½ feet. The undersurface of the front sections was trimmed to shape again. Then the planks were separated, and the height of the runners was marked off to be a thumb – middlefinger span, roughly 8 inches. The excess was removed by sawing along the pencilled line from the stern end. The resulting spars were used to make a larger drying rack in Davidialuk's snowhouse. Then the runners were nailed together again, and the bottom surfaces were trimmed at the rear to curve gently upwards. Next, the runners were planed. They had to be made smooth all over, sides as well as top and bottom surfaces, to keep snow and ice from sticking. The upcurves of the ends were smoothed out and given very gradual beginnings a third of the length in from the ends proper. The runners were tapered in height from front to rear, being deepest (8¼ inches) where the front crossbar would be placed, then gradually narrowing behind to 8 inches two-thirds of the way back and at the very rear end to 6 inches. With this design, rocks or other hard obstructions encountered between the runners would tend to break the rear crossbars rather than the more vital front ones, so said Davidialuk. Davidi thought that at the other settlements on the east side of Hudson Bay they also had tapered runners for their sleds, but not at Ivuyivik nor at points beyond along the south side of Hudson Strait. For Okak on the Atlantic coast, Hutton mentions "a gentle upward curve from back to front—to make the sledge rise better to the snowdrifts . . ." (1912: 116), but it is not clear whether or not this means that the runners were tapered.

The length, or overall size, of Povungnituk sleds varies greatly. It may be said, however, that the sleds come in two main sizes, long and short, with the latter about half the former. The short sleds are used mainly for the shorter trappings and hunting runs with little to transport besides the driver himself, and also for minor tasks around the settlement. There are still smaller sleds—those for use of children in play. Boys may even try making a little sled for themselves. The large sleds are for long trips with big loads. Their length today tends to be about 18 feet, the size of runner planks at the store.[1] Some are a little shorter, like Davidialuk's '16 footer.' Some are a little longer through scarfing at the front or the use of longer lumber (*See* Plate V). Qupiqrualuk, E 9–801, wanted a big sled for going inland to hunt caribou in the early spring. After initially trimming his store-bought planks with a saw, he scarfed the scrap pieces from the front end onto the tips, making the tips higher and the sled longer. Because a crack was present in the end of one of the planks, Qupiqrualuk considered two alternative ways of scarfing, one of which would give a higher front tip (Fig. 1a) while the other would be stronger (Fig. 1b). He decided in favour of strength.

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[1] The total cost of a new sled was estimated to be around $70 to $80 including two new runner planks for $42, two steel shoeings for $22, and several dollars', or more, worth of screws, twine, rope, some needed tool items perhaps, and fuel to melt the mud for the mud shoeing. P. A. C. Nichols (pers. comm.) of the Hudson's Bay Company says the best wood for runners is Sitka spruce with its strength and straight clear grain. But its cost having become prohibitive, good less-expensive substitutes have been found in B.C. fir and yellow cedar. Where there is a demand, still cheaper woods such as clear common spruce or fir are sold, but these are inferior and inadequate. Planks are presently supplied in three lengths, 14 feet, 16 feet, and 18 feet; all 10 inches by 2½ inches.

[2] Another informant, Manukulu, said wooden pegs were better as they could be planed over when the runner sides were being smoothed.

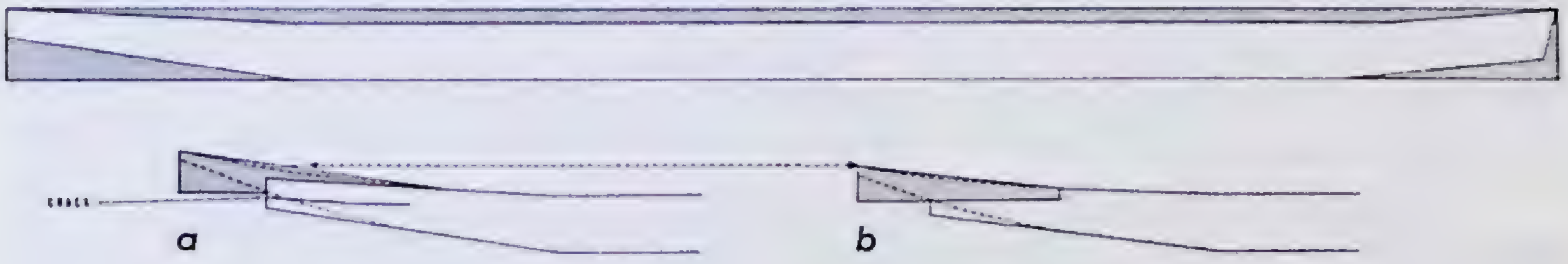

FIGURE 1. *Qupiqrualuk's runner made from 2½" x 10" x 18' Sitka spruce.*
Above: *initial trimming.*
Below: *two methods of scarfing on the front tips.*

Length is desirable for transporting large loads, width being more or less standardized at about a narrow 18 inches between the outer sides of the runners. Large loads arise when there is a large quantity of goods (household possessions; freight for white establishments, especially the trading company; game, particularly caribou from the inland hunt) or passengers (sometimes whites with considerable 'excess' baggage) and when there is a great distance to cover necessitating a large supply of dog food and fuel. Now a large load can be divided between two shorter sleds, but it seems more efficient to use one large sled because duplication of manpower and equipment is avoided. On the other hand, it is good to travel with more than one sled, for then the competition between the teams can be exploited to make the dogs work harder and there is the insurance of mutual aid should some accident befall one of the sleds. Length in a sled makes for a smoother ride.[2] Short sleds give the feeling of bouncing up and down on every little bump and hollow along the way. Boas (1888: 534) says that long sleds (presumably meaning 15 feet long; *see* p. 529) with broad shoes are "by far the best" when the snow is soft or when there are wide cracks in the floe-ice. Length would seem advantageous in late spring travel over rotten ice. However, Birket-Smith, discussing the very long (up to 33 feet long; 1929: 173) Caribou Eskimo sled, writes:

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[1] Davidialuk noted, presumably ideally, the length of the sled to be four units of *qisi maqruu*, i.e., of two ringed sealskins, about an armspan, and equated it to an eight-skin kayak which would be about 20 feet long. Formerly, according to Joe Talirunilik, E 9-818, kayaks were sometimes made into sleds as winter came, but, apparently, each gunwale was doubled into a runner half as long.

[2] A smooth ride was apparently the main reason why a new Povungnituk sled was admired at Ivuyivik to the north where runners seemed to be about 2 feet shorter when the writer went there in 1960.

> On unsafe ice the advantage of the great length of the sledge will often be outweighed by the correspondingly heavy load, and not even in the case of cracks does the length mean any advantage, because the dogs cannot jump over much wider cracks than a Greenland sledge [7–8 feet long. 1924: 245] can clear (1929: 179).

A very long sled is harder to steer than a short one. This was one reason why the Caribou Eskimo always travelled two to a sled. Also great length is less suitable for hummocky ice (*Ibid.*). For coastal travel on the east side of Hudson Bay a sled-length of 18 or 20 feet would seem to be about the limit for efficient handling through rough ice. For inland travel over relatively flat terrain, however, sleds several feet longer would seem still practicable. With a long, heavily loaded sled there is also the consideration of assembling enough dogs. Qupiqrualuk thought his almost 20-foot-long sled could be pulled with eleven dogs, a number that two men could muster by combining their teams. The strength and condition of the dogs would have to be taken into account as well.

To facilitate steering, the runner bottoms are curved up gradually from about a third of the length behind the front end and from about the same distance before the rear end so that only the central third of the bottom is really flat. Similarly in the long Caribou Eskimo sled "the lower edge only touches the snow along a comparatively short distance, in front of and behind which it rises up from the ground" (op. cit.: 173–4).[1] The sled can then pivot easily about its centre of gravity. If the bottom were flat to the rear, the end would catch in the snow when the sled is being swung about. Even with curved bottoms, changes in direction are preferably made when the sled is riding over a small ridge of snow, at which time most of the runners are well clear of the ground. On Davidialuk's sled the heel at the back end was almost 2 inches higher than the flat centre portion of the runner bottoms. When mud shoeing is added, the mud heels are rounded off. On the longest sleds at Povungnituk the heels are given still more upcurve and rounding (*see* Fig. 1) for an additional reason. When, say, as between two large mounds, a long sled plunges down and its front end sticks in the snow, the heels may dig in and jam the sled into the dip if they have but little upcurve, but if well upcurved they will tend not to do so. Or, as Qupiqrualuk said in simplified language, "*sivu mauyaktuq aqu suli situayuq*," freely, "the front sinks in but the back still slides." Steering is also facilitated by attaching the draught line from the dogs to the sled at the first crossbar about a quarter of the way back. Low says,

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[1] In Greenland sleds the runner bottoms do not rise to the rear but have sharp square heels which are functional in descending slopes when the driver puts his weight on the back to make the heels cut deeply into the snow, apparently for braking effect (Thalbitzer, 1914: 370–1). Runner bottoms also appear to continue flat to the rear in Baffinland (Boas, 1888: Fig. 482), and perhaps at Iglulik as well (Mathiassen, 1928: Fig. 42), though the latter illustration is not really clear enough to judge conclusively. Copper Eskimo runner bottoms appear to have a slight rise at the back (Birket-Smith, 1945: Fig. 144; Jenness, 1922: Fig. 34, Plate IIIA). There are both individual and regional variations to be considered. Also, perhaps, the rise of the bottom toward the rear might be distinguished from the rounding of the heel itself in some cases. At Naulirakvik, 90 miles south of Povungnituk, a sled with heels fully rounded to the top of the runners was seen. Such a sled is easier to move backwards, it was said (*See* Plate IXB).

> By this means the sled is easily turned, and allowed to run at a considerable angle to the direction in which the dogs are travelling; advantage is thus taken of the smoothest places when journeying along the broken ice piled upon the shores (1906: 148).

Assembly

To return to the construction of Davidialuk's sled after that lengthy digression, let us proceed to the assembly of the runners and the crossbars. One runner was marked with a pencil for the holes (*napuliqvik*), and for the lashings (*napuliut*) of the crossbars. For each of the important foremost and rearmost crossbars, *isucciq*, two holes were marked about 2½ inches apart at a slant across the grain, the hind one of each pair lower than the other. The leading hole for the foremost crossbar was placed seven thumb – index finger spans back of the front end, 46½ inches to be exact. The rearmost hole for the last crossbar was placed 4½ inches forward of the back end. For the intervening crossbars, *napu*, in between the first and last ones, seventeen holes, one per bar, were marked out at thumb–index finger span intervals, 7⅛ to 8¾ inches apart allowing for varying crossbar widths, and about 1¼ inches below the top border of the runner. Guide lines for straight drilling were ruled across the top surface of the runner. The holes were bored with a brace and three-quarter inch bit. The two runners were matched together again to mark the second one with a pencil through the holes of the first. After boring the second runner, Davidialuk made the foremost and rearmost crossbars from lumber an inch thick, shaping and smoothing them with knife and plane. All sharp edges were rounded or bevelled off. These two crossbars were a little larger than the rest and had a special shape, straight on one side and bulged out on the other. The front bar was 23½ inches by 4 inches; the back one 21¼ by 3¾ inches. The ends were about 2½ inches wide and had paired, slightly slanted notches cut into their sides to come just outside the runners. Davidi said a large round file was good for notching crossbars, but none was at hand. The runners were set up on two snow blocks, and the front crossbar was lashed on with bearded seal thong. The simple manner of lashing is best shown by Figure 2.

This was the only sealskin lashing in the sled, all the other crossbars being fastened with net backing line. The back bar was lashed with the twine doubled. Sleds must be assembled with flexible lashings, of course, instead of rigid nails which would break too readily, especially in cold weather. Bearded seal thong makes strong lashing, but the dogs may eat it, and it is hard to get enough of it at Povungnituk. Although twine is much weaker, it will not be eaten and can be easily purchased at the store.

In assembling the sled there are a number of important considerations. The runners must be set with a 'negative camber' so that the bottoms are slightly wider apart than the tops, *silamuangayaaqtuq*, 'going a bit to the outside.' Without this spraddle outwards, the sled upsets most readily and inconveniently on uneven terrain. Also, when a runner is going inward,

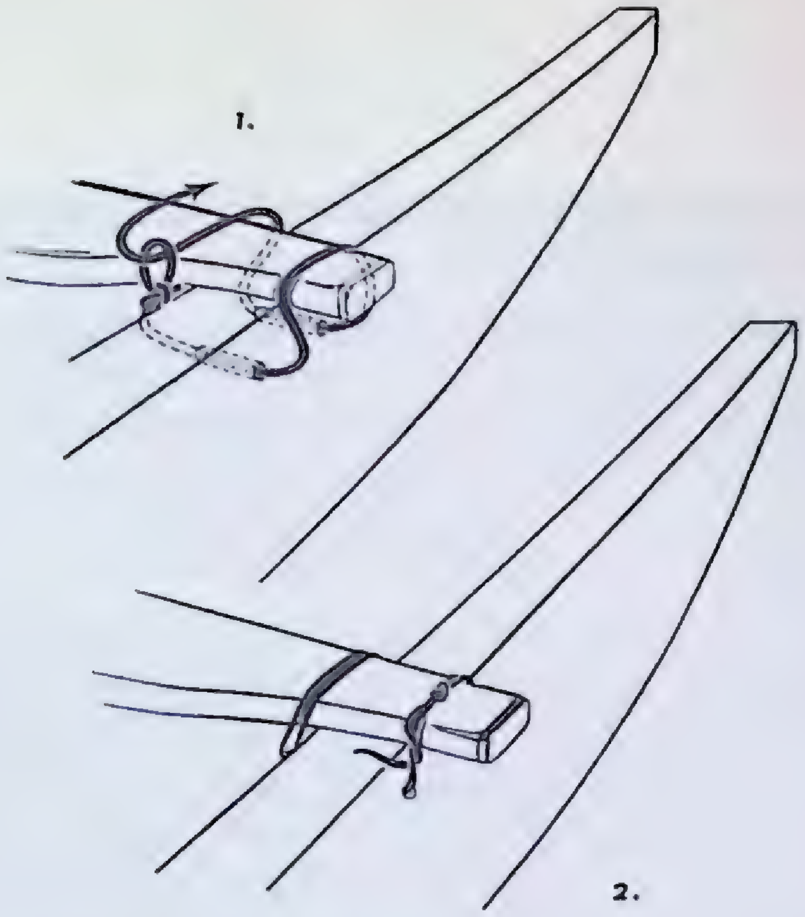

FIGURE 2. *Lashing of the front crossbar.*

ilumuangayaaqtuq, it may collapse inwards under the pressures of the constant turns. The top surfaces of the runners are bevelled slightly during planing to make the outer edges perhaps about one-eighth inch lower than the inner ones. Then when the runners and crossbars are assembled, they will be at a slight angle to each other, creating the spraddle outwards.

The runners should be spaced the same distance apart, as in other sleds, to permit running in old tracks when possible. Hawke's statement half a century ago that "On the east coast of Hudson Bay, 18 inches is the regulation width" (1916: 64) still seems to hold in general in the Povungnituk region at least.[1] A decade before Hawkes, Low wrote that the runners were placed "about fifteen inches apart" (1906: 146), presumably giving the interior space between the runners from the word "apart." Then with a runner thickness of 2 to 3 inches, the exterior width would be 19 to 21 inches. Still, an exterior width as narrow as 15 inches is not inconceivable in this region. At Ivuyivik at the west end of Hudson Strait two sleds seen in 1960 had top exterior runner widths of about 16 inches. A narrow sled with little space between the runners, *ayanikittuq*, is tippy and only for light loads, according to old Joe Talirunilik. But narrowness is advantageous for passing between close-set obstructions as when going through rough ice or rock-strewn areas. Ivuyivik sleds may be narrower than those of Povungnituk because more rough ice is encountered on the strait. In his description of a sled at Charles Harbour in the southern part of Labrador proper, Cartwright says the runners were placed "about a foot asunder" at the top, presumably giving the interior width, for the crossbars were 18 inches long (1792: 72). The exterior width could be expected to have been about 16 inches. A century later for Okak, farther north on the Atlantic coast, Hutton writes that his sled was 2½ feet broad (1912: 116). It seems that he gives the crossbar length, but still a wide sled is indicated. Central Eskimo runner widths appear to range from 16 to 24 inches (Birket-Smith 1929: 176, 1945: 184; Boas 1888: 529–30; Jenness 1946: 136; Mathiassen 1928: 73–4). According to Davidialuk and old Joe, the runners should be slightly farther apart in the front than at the back to allow for the squeezing together of the front part of the runners by the inward pull of the draught line loops or yoke, *pituq*, 'it hooks together,' which usually passes through the runners and hooks on the ends of the front crossbar. In use, then, the runners should be parallel.[1] If the runners are toed-in with the front narrower than the back, the sled may be described as *kuungayuq*, according to Joe. An opposite splay-footed condition may be described as *saqpingayuq*. The correct parallel condition has no description other than *namatuq*, *namatutsiak*, freely, 'It fits well,' or *qanuinngituq*, 'It's all right.'

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[1] Two sleds at Povungnituk had noticeably greater widths than the rest. Pita-Yosi, a cripple who went about on hands and knees, made his sleds 24 inches wide for greater stability. Then there was Liivai Qumaaluk, a big-sized individual, who built a rather idiosyncratic sled for caribou-hunting with a top exterior width of 23¼ inches to the runners at the front crossbar and no perceptible outward spread at the runner bottoms. He was told, it is said, that he was building incorrectly without a well-upcurved heel and that consequently his long sled would get stuck. The steel shoeing curved well over the front end but ended a good foot short of the heel (*See* Plates V, VIA). Liivai seemed to come from a family associated with the Ottawa Islands (?), though this is not adequately confirmed.

In Davidialuk's sled the exterior widths of the runners were 18⅛ inches at the top and 18¼ inches at the bottom at the front crossbar, and 17½ inches at the top and 18 inches on the bottom at the back crossbar. The front width is a bit greater than the back width, as it should be, to allow for the squeezing in action of the *pituq*, the draught line loops. At the back the bottom runner width is slightly greater than the top width, but at the front the difference is negligible. The slight spraddle may be from some play in the junctures of the runners to the crossbars and some warping rather than design, for actually Davidi wanted the runners set up perfectly upright, *makitatsiatuq*. Furthermore, in use the runner bottoms would be forced inwards automatically by the pressures of the turns. According to Davidialuk, if the runners did not lean inwards below, the snow and ice would wear away the outer surfaces, hollowing them out in the course of just one long day of hard travelling. It seems unlikely that snow and ice could be so abrasive. Tipping was not considered a problem.[2] Another design requirement for a (to us) non-mechanical reason was that the specially-shaped front and back crossbars be so oriented that their straight sides were the leading edges. If both were placed with their convex sides to the front, the sled would want to go backwards. If just the back bar were reversed, then the sled would want to go both forwards and backwards simultaneously.[3]

The rest of the crossbars between the front and the back ones, seventeen of them, were prepared from scrap lumber from local white house-building activities. Boards about an inch thick and 2 to 4 inches wide were laid across the runners and sawn to length so that the ends would project about two inches out past the sides. The ends were trimmed down to be about two inches wide and notched for lashing just over the outer sides of the runners. Edges were bevelled or rounded off. Low (loc. cit.) writes that crossbars were 3 to 6 inches wide and about an inch thick and, when possible, were placed close together. Hawkes (loc. cit.) says they were placed "at a distance apart of from 4 to 6 inches." Davidialuk's crossbars were spaced on the average at 8-inch intervals from centre to centre, leaving gaps in between, *ayaniq*, of about five inches. On another sled being built at the same time, Liivai Qumaaluk, using a ruler, spaced his crossbars at 5-inch centre intervals.

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[1] In Greenland the runners are set closer together in the front than in the rear (Birket-Smith 1924: 244; Thalbitzer 1914: 368). Thalbitzer says, "If the opposite condition prevailed, the sledge-runners in the passage over soft snow would collect the snow as in a funnel, to the detriment of speed. As it is, the sledge acts rather like a snow-plough to some extent" (loc. cit.).

[2] When the construction of Davidialuk's sled was observed, his deviance from general practice in this matter of runner spraddle was not noted, and this passage initially read, "Davidi's runners seem too vertical at the front crossbar. Perhaps the planks were warped." It was during a summer visit the following year that Davidialuk expressed his special views, to the surprise of his son-in-law Matiusi as well as the writer.

[3] A sled at Naulirakvik on the Portland Promontory was in this condition, but unfortunately it was not observed in use.

For the start of the continuous lashing of the crossbars, Davidialuk's son-in-law, Matiusi, E 9-977, from Ivuyivik, bored a small hole in each runner halfway between the front crossbar and the lashing hole for the second, boring down at an angle from the top to have the hole emerge on the inside. Then standing at the first crossbar he measured out two lengths of net backing line, while Davidialuk's boy, Isa, moved back with the line beyond the rear end of the sled. These lashing lines were made to be roughly three times the length of the section with the crossbars. Matiusi threaded the lines down through the holes just behind the front crossbar, knotting the ends to stop them on top of the runners. He then began lashing on the crossbars, one at a time, by pulling each line through the runner from inner to outer side, up around the crossbar at the notches, back in through the runner, up around the crossbar on the inside, and finally down around the line itself where it

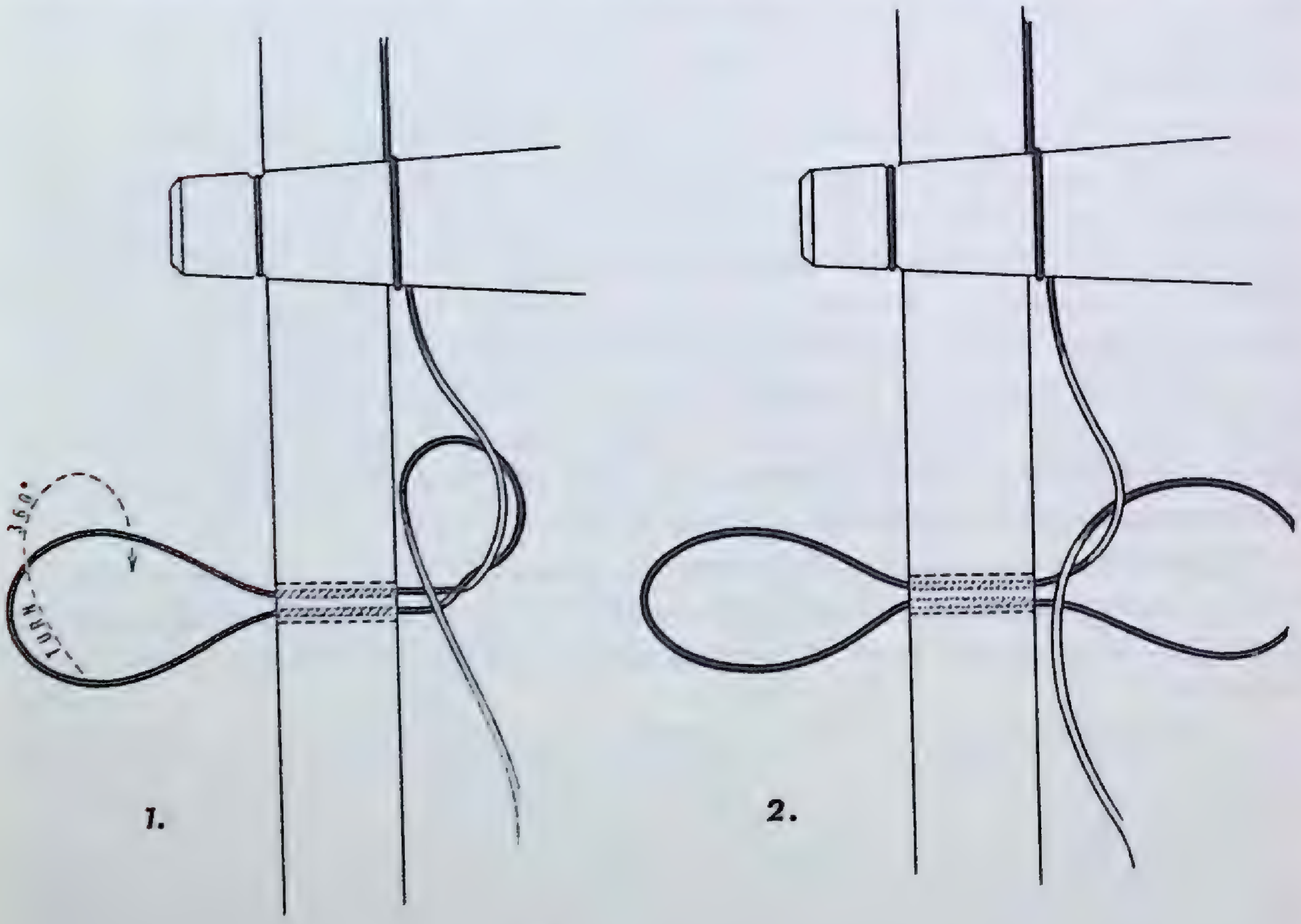
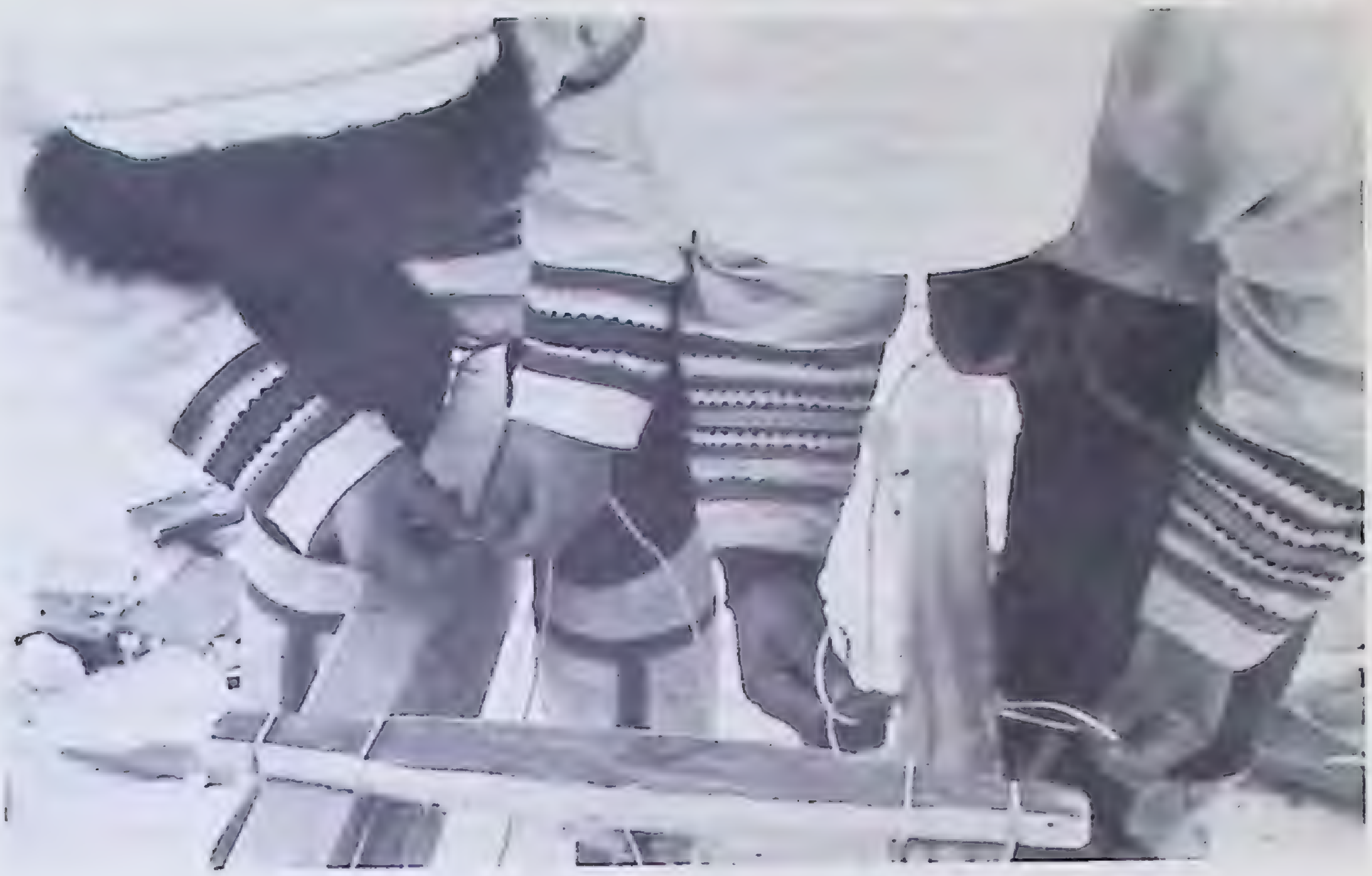
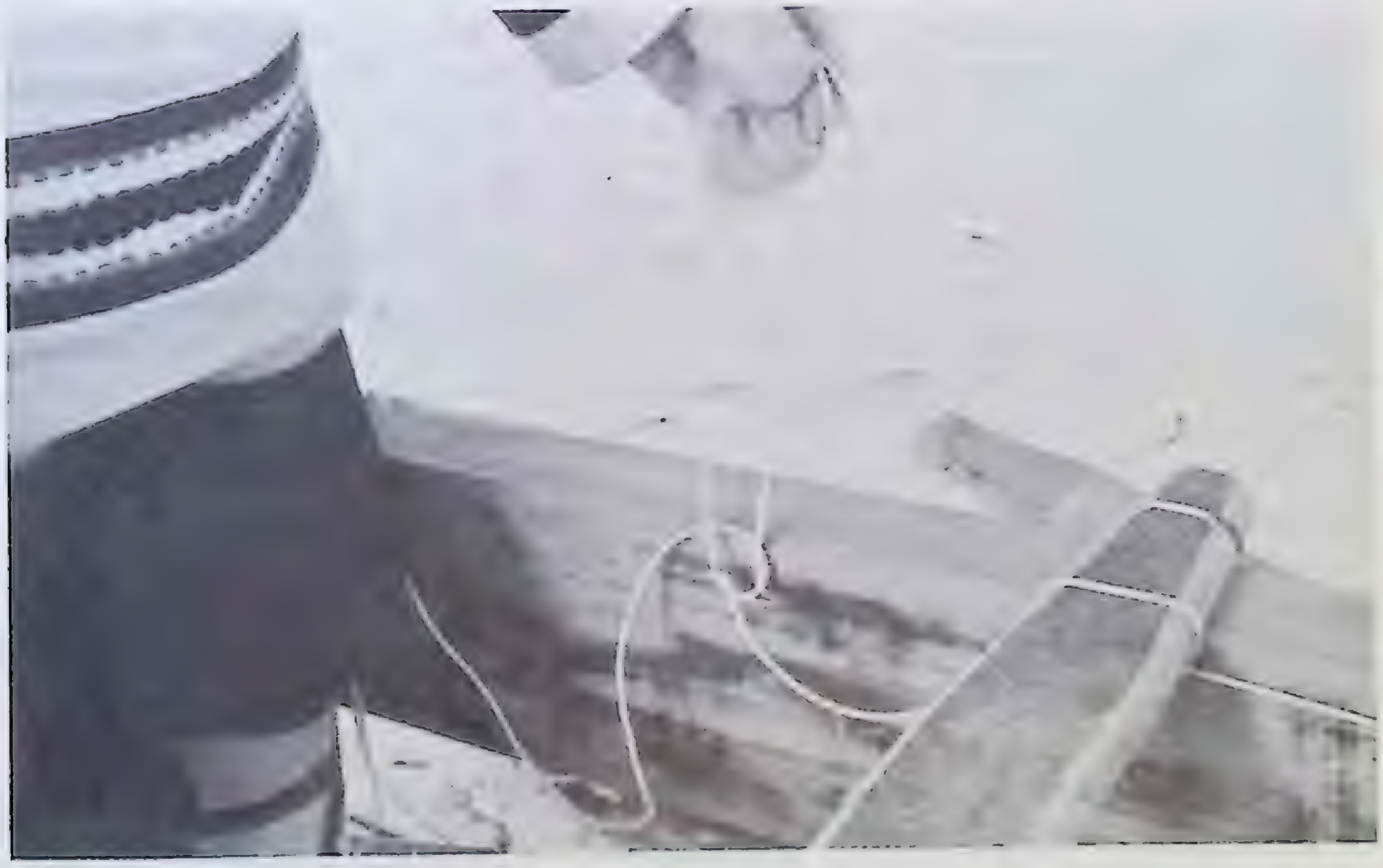


FIGURE 3. *Continuous lashing of the crossbars.*



A. Davidialuk teaching Matiusi his method for lashing crossbars



B. A pair of loops ready for a crossbar

first entered the runner. He was on the fourth crossbar when Davidialuk came up from the house and said, in effect, "What are you trying to do, Matiusi?" Davidi then demonstrated a more efficient way of lashing crossbars; this is best explained by Figure 3.[1] The loops made in this manner were slipped around the ends of the crossbars and drawn tight. Matiusi quickly lashed the remaining dozen crossbars in place with the new method and ended each line with a couple of half hitches around itself. It took but half an hour to lash on the seventeen *naput*. Davidialuk knew of other ways of lashing on crossbars which he considered not so good as the method he used. With double holes in the runner at each crossbar the top border of the runner was weakened, and the entire length of the lashing line had to be pulled through each time, as Matiusi was doing at the start. With holes in the crossbar, the bar was weakened, and again the line had to be pulled all the way through.[2]

Shoeings

Next came the shoeing, *pirqaaq*. Davidialuk wanted to shoe the sled before putting on the rope that runs around the sled at the crossbars to hold the load-lashing line because, during the application of the mud shoeing, water would freeze on the runner sides, and when the resulting ice was being knocked off with a hatchet, the rope might be cut. For permanent shoes, steel ones were wanted to add strength to the runners. They were $\frac{1}{8}$ inch by $2\frac{1}{2}$ inches by 18 feet and cost $11 each. Also purchased were $2\frac{1}{2}$-inch screws, sixty at 4 cents each, there being twenty-eight countersunk holes already drilled in each steel shoe. Davidialuk cut the corners off each end of the shoes using hatchets as cold chisel and hammer. The shoes were placed on the upside-down sled and held in place by temporary lashing wound around the runners. The $2\frac{1}{2}$-inch screws were found to be too large, projecting one-eighth inch above the shoe surface and therefore requiring much filing down. Consequently, they were swapped for $2\frac{1}{4}$-inch screws at the ever-obliging Roman Catholic Mission. The steel shoes were slightly wider than the planed runners and long enough to be bent over the front tips of the runners and up around the heels at the back. Any rust is removed by filing or sandpapering. Rust removal is usually necessary at the onset of winter when the sled is put into use after a summer's storage. Formerly Labrador sleds were shod when possible with short lengths of walrus ivory, caribou antler, or whalebone, held on with bone or wooden pegs (Cartwright, 1792: 72; Hawkes, 1916: 65; Turner, 1894: 242), with ivory shoeing the most prized, at least on the east coast of Hudson Bay (Low, 1906: 146).

For the mud shoeing, *sirngmiq*, Matiusi and Davidi's son, Isa, went with a small sled and a hatchet to a place on the outskirts of the settlement where there was the required kind of peaty mud. The frozen chunks had to be thawed out in a big pot over a Coleman stove. The thick dark mass of mud was carefully worked through by hand to remove stones, twigs, and other debris as well as possible. Then the warm mud was made up into balls about 5 inches in diameter. As quickly as his son-in-law and daughters made up these balls, Davidialuk placed them, two or three at a time, in a basin to apply them over the steel shoeing. Working without mitts with wet material in subzero temperatures was hard on the hands. Davidi complained that his hands were completely numb. The mud was moulded on to be about an inch and a half thick on the bottom and perhaps half an inch thick on the sides of the runners which were covered for a couple of inches. The result had the bulbous 'railroad' cross-section mentioned in past descriptions of mud shoeing. Turner (1894: 242) for Ungava Bay says the mud was 3 to 4 inches deep and 3 to 5 inches wide. The size of the mud shoeing may vary with the individual. Tivi, E 9-1071, of Ivuyivik was said to use an exceptionally heavy shoeing. Low (1906: 147) mentions an alternative use of white reindeer moss and, when available, a base of cotton rags, wetted and frozen on over the permanent shoeing. Today too, cloth, commonly sacking, *utsiituq*, is usually placed under the mud shoeing as it helps to keep the mud from breaking; it is especially needed for rough going. The front foot or so of Davidialuk's runners was not mudded. The mud was left to freeze solid overnight. Next day, the ice that had formed on the runner sides from water dripping during the mudding was knocked off with a hatchet. Then the shoeing was planed smooth. Davidialuk complained that Matiusi's mud was not good (probably it contained some sand or fine grit) and ruined his jack plane. The mud shoeing is usually planed smooth before each icing when the sled is in use. Broken-off bits are often filled in with a paste of flour and water, often masticated bannock on the Hudson Strait at least. The runner plane, *qairutik*, is a block of wood; usually it is convex sided for easy gripping and has a transverse slot in which the blade, perhaps a piece of saw steel, is fixed with wooden wedges. For the ice shoeing, *nanuigutik*, the water should be lukewarm in cold weather, but cold when it is warmer. A piece of fur, polar bear or caribou, or a piece of cloth, duffle perhaps, dipped into a tin can or, more directly, into a kettle, is used to apply the icing, starting with fairly short strokes and ending with one continuous stroke the length of the shoeing for a smooth, even finish. When an applicator is lacking, the water may be dribbled on from the mouth (Cf. Low, 1906: 147).

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[1] This is perhaps the most vivid instance of 'formal' technological instruction among Eskimos seen by the writer. He, however, did not fully grasp the technique until later when Davidialuk repeated the lesson in his home by tying a string around his foot, holding a pair of scissors between his knees, and doubling the line through a handle hole. The lashing method, once comprehended, has a satisfying simplicity. It may not be so practicable with the thicker bearded seal line.

[2] At Ivuyivik, Matiusi's home, the common pattern appeared to be two pairs of holes in the crossbar over one in the runner at each lashed intersection.

Attached Lines

Holes for the *naqitavvik*, the line running around the load platform formed by the crossbars for holding the *naqitarut* (fully, *naqitarutik*), the load-lashing which passes back and forth over the load, were bored in the runners by Matiusi at three-crossbar intervals, a bit lower than the holes for the crossbar lashings. Two pounds of quarter-inch rope, $1.40's worth, had been bought for this load-lashing retaining line. Matiusi began by passing the rope through the hole at the left front between the third and fourth crossbars, bringing it back out over the top of the runner and through a bowline loop made in its end. Then he took it around the front crossbars, catching it under their projections. On the right side, the rope was passed through the hole between the third and fourth crossbars to the inside, brought out over the runner top, and bent around itself where it entered the hole. This was repeated at each succeeding hole going clockwise around the sled up to the left front where the rope was doubled around its beginning, just in front of the bowline, and stopped with a few half hitches about itself. A good half of the rope being still unused, it became the load-lashing as well and was wound about the first crossbar until time for use. When the sled is loaded, the load line zigzags back and forth across the load, looping around the retaining line which is pulled up along the sides over the crossbars so that the load is held in a net-like web of lashing. The ends of the line are commonly stopped with two half hitches which are slipped to facilitate untying of the often frozen knots. At the front there is usually a wooden box holding a primus stove and other paraphernalia for tea and runner-icing stops. The load line criss-crossing over the box provides a grip for steering the sled. A transverse stick may be lashed on top for a definite handle, but this practice is not so common at Povungnituk as on the Hudson Strait. Davidialuk was critical of the way in which Matiusi had put on the rope for the load-lashing, saying that it would have been better to have gone around the rear end first before going forward around the front. The reason for the preference was not obtained. Davidi also said that it would have been better to have spaced the holes for the rope at closer intervals since the crossbars were rather far apart. In Caribou Eskimo sleds, this line for the load-lashing went through the runner only at about the midway point in a simple fashion with no bend about itself (Birket-Smith, 1929: 175, Fig. 51). Formerly the Labrador sled apparently had no retaining line for the load-lashing which was looped about the crossbar projections notched for the purpose (Hawkes, 1916: 64; Low, 1906: 146).

There were a few more holes in the sled. Under the front crossbar each runner had a hole about 3 inches below the upper edge for a loop of the stout bearded seal thong 'yoke' to pass through from the inside and to loop over the lateral projection of the front crossbar. In some sleds the yoke is attached directly to the front crossbar through two holes about a foot apart. Farther forward in each runner a small hole was bored about a foot back of the front end and an inch under the top edge for a rather loose loop of twine. This loop, *qallirvisaikut* (full form, *qallirvisaikutik*), holds up the draught line, *nuvvitik*, that goes from the central knot, *qilirngnik*, of the yoke and threads through the end loops, *uqsiq*, of the dog traces, *ipiutak*. When the draught line slackens, as in a descent down a slope, the forward loop helps keep it from going under the sled. The loop also does this when the pull of the dogs is at an angle to the sled, at which time the draught line's lateral force may be utilized against the inner or outer sides of the upcurving runner tips to help change, or maintain, direction. In addition, the forward loop is useful for pulling the sled by hand, as when starting off sometimes, and for lifting up the nose of the sled when it becomes buried under the snow. Finally, to complete the sled, a couple of long nails were driven vertically downwards into each runner for strengthening at cracks, but this part of the construction was not observed. Metal plates, too, are commonly nailed on across cracks and scarfs.

The construction of Davidialuk's sled took a dozen days, spread over a one-month period from early February to early March. As there was no hurry and as Davidi was well occupied with carving for a living, construction proceeded only sporadically and never on a full-day basis. If urgently needed, a sled could be built in three days, it was said. Hutton's sled at Okak was built by two men in four days including the procuring and ripping of a tree for runner planks (1912: 117).

At this point most descriptions of Eskimo sleds go into the details of hitches, driving practices, and the big topic of dogs. However, having but limited familiarity with these vital matters, this writer does not feel that he can add anything worthwhile here. A quotation expressing an old ethnographer's appreciation of the "small, elegant sled of the Ammassalikers" of East Greenland will be the last.

> It contains in itself all the minutest details, which have made the Eskimo sledge an unsurpassed means of transport over the frozen ways on the sea, the fjords and the intervening stretches of land. Its construction in small and large is, at the least, just as intelligently adapted to the difficulties met with as our modern, four-wheeled carriages to our beaten and paved roads...The smooth runners of the sledge glide over the uneven courses like a boat over the waves; it bears up on thin ice and on thinly frozen snow, where wheels would sink through. It is low, not easily overturned, even when tossed like a boat from one side to the other on journeying between ice-hummocks or through stony ravines. It is easily steered from poise and counterpoise . . . (Thalbitzer 1914: 370).

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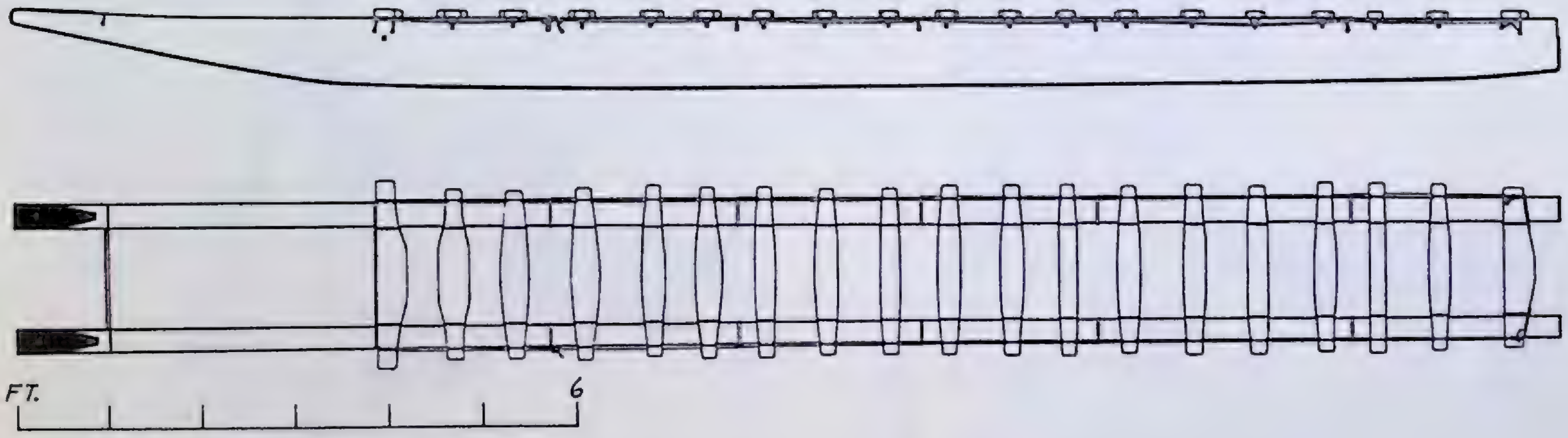
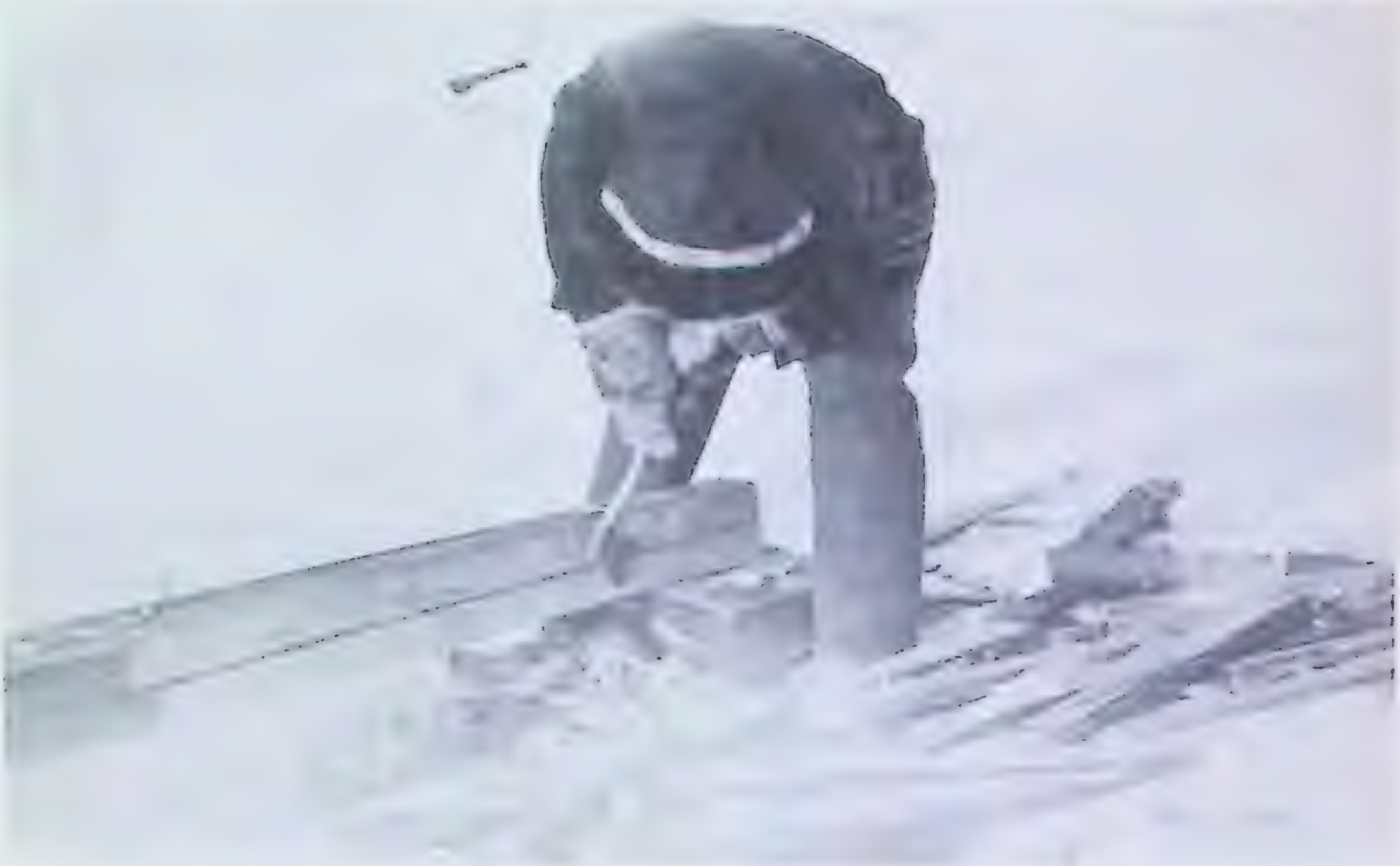
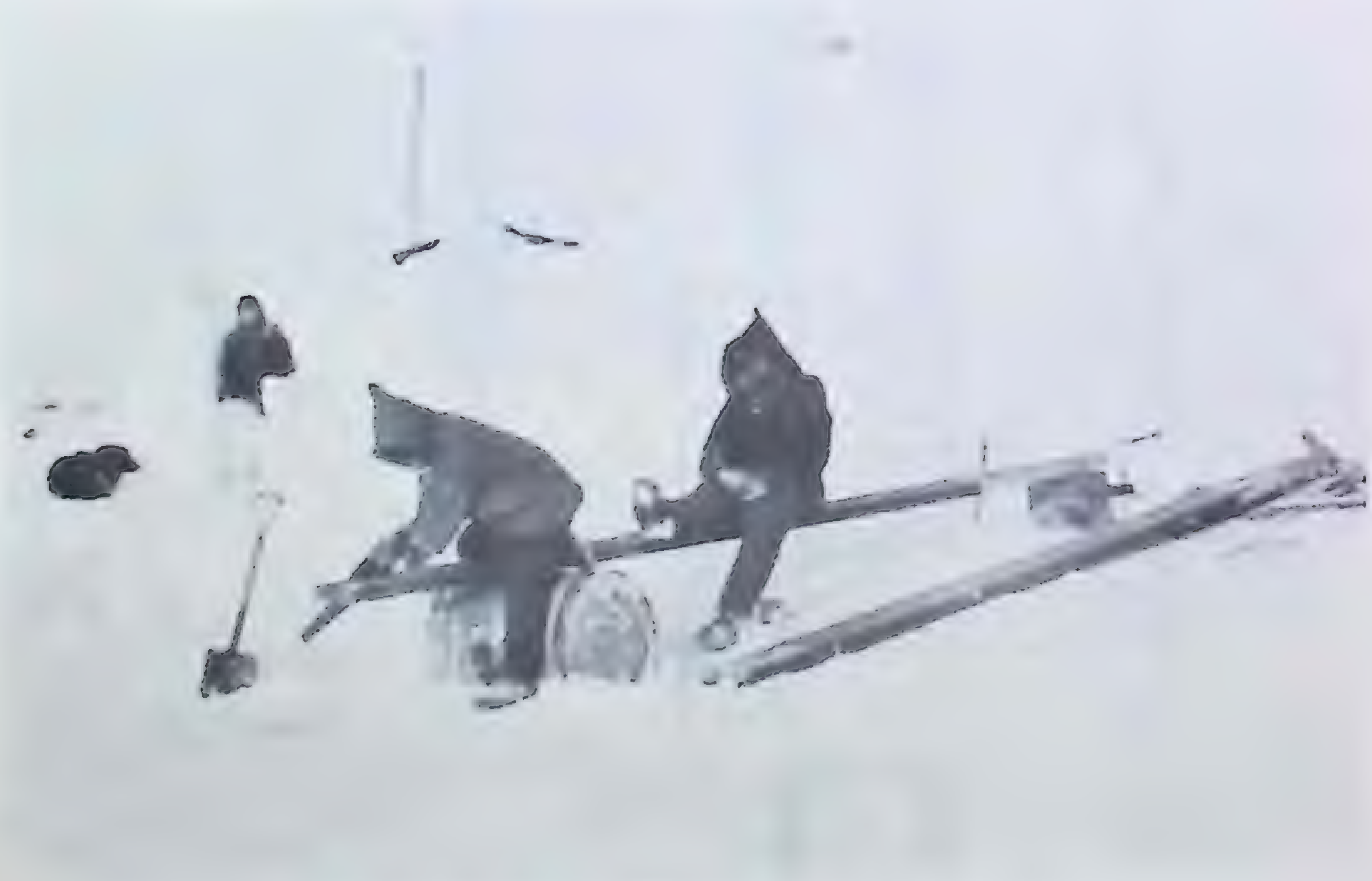


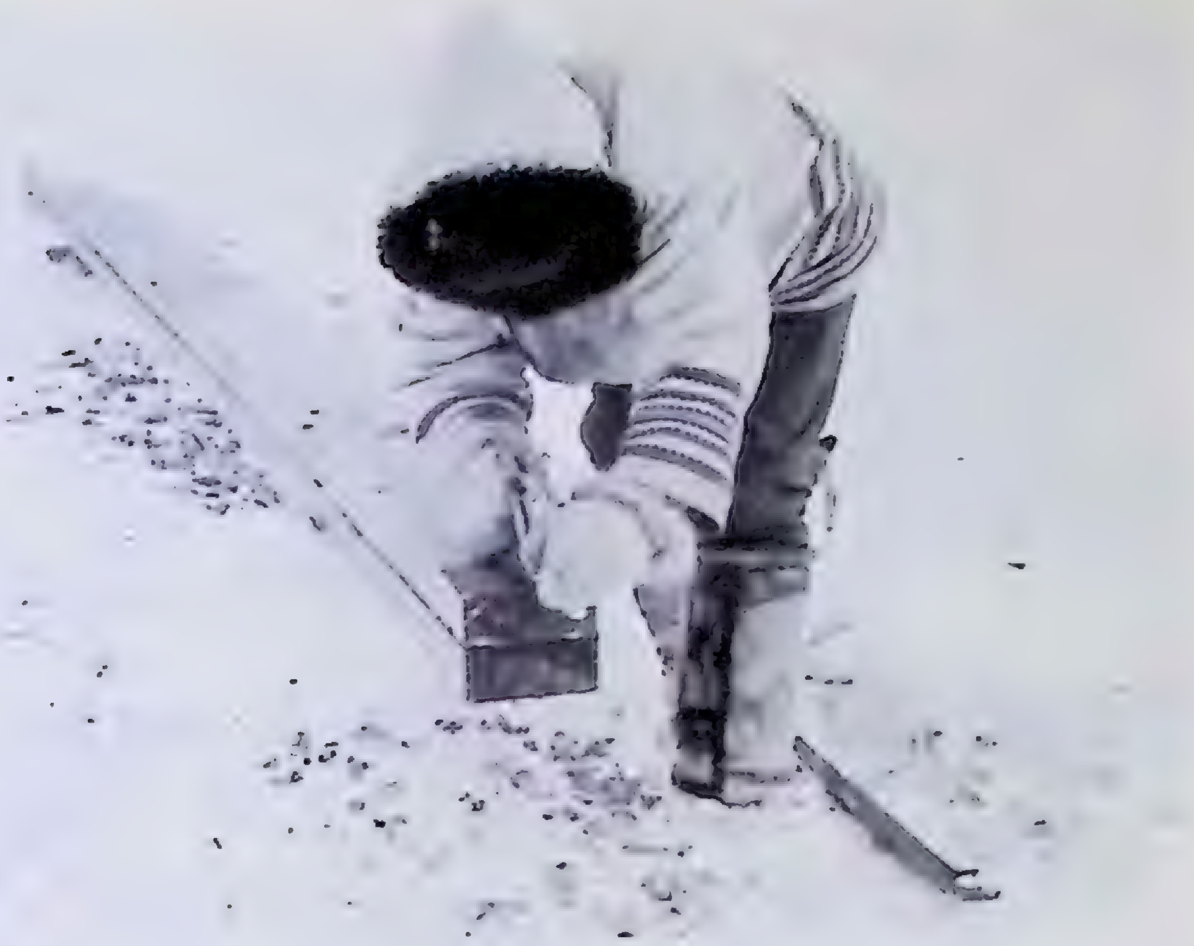
FIGURE 4. *Davidialuk Alaasuaq's sled built at Povungnituk, P.Q., in 1963.* Length 16½ feet.



A. Davidialuk trimming the runners to match



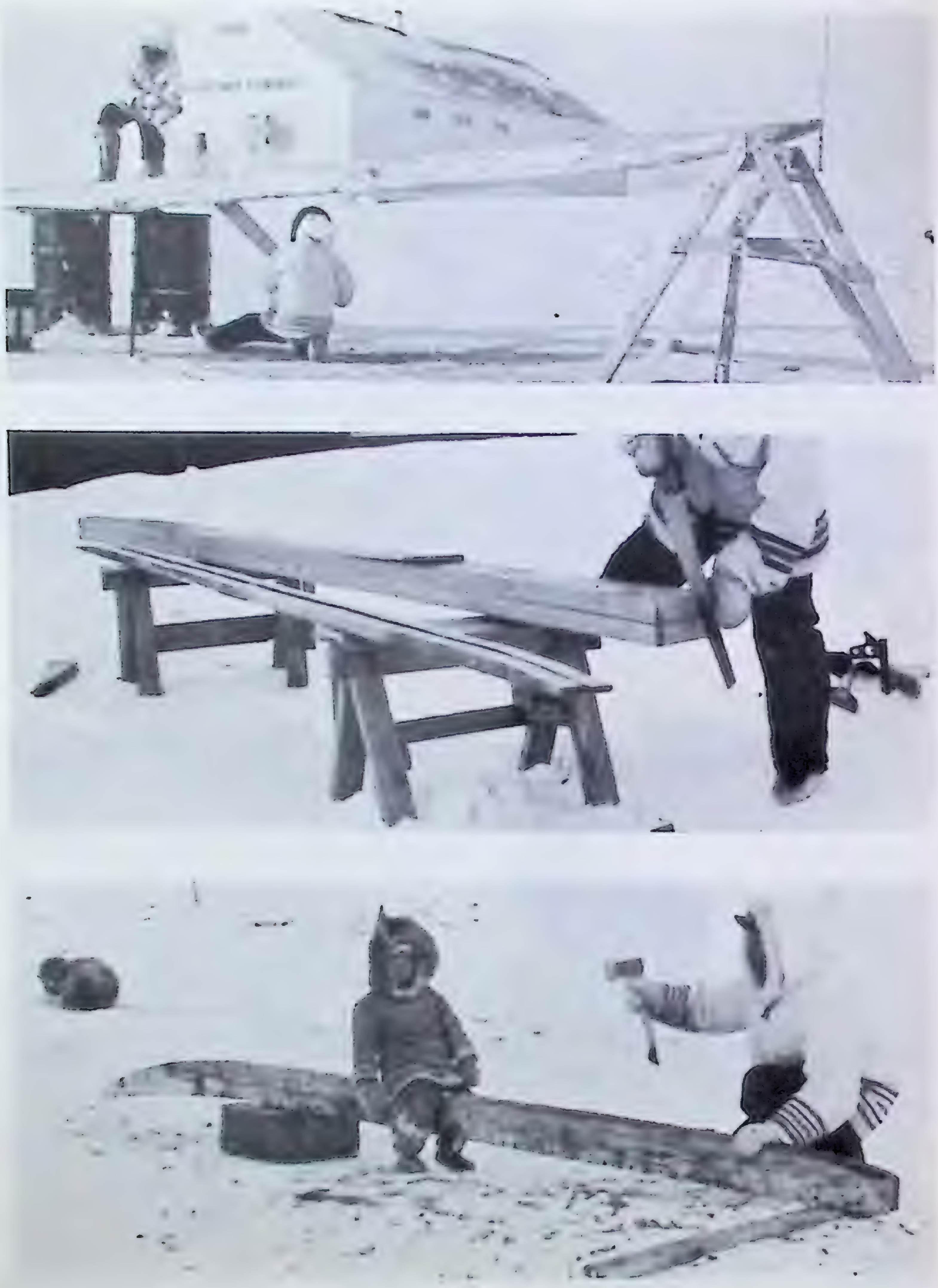
B. Matiusi sawing off the top edge of a runner



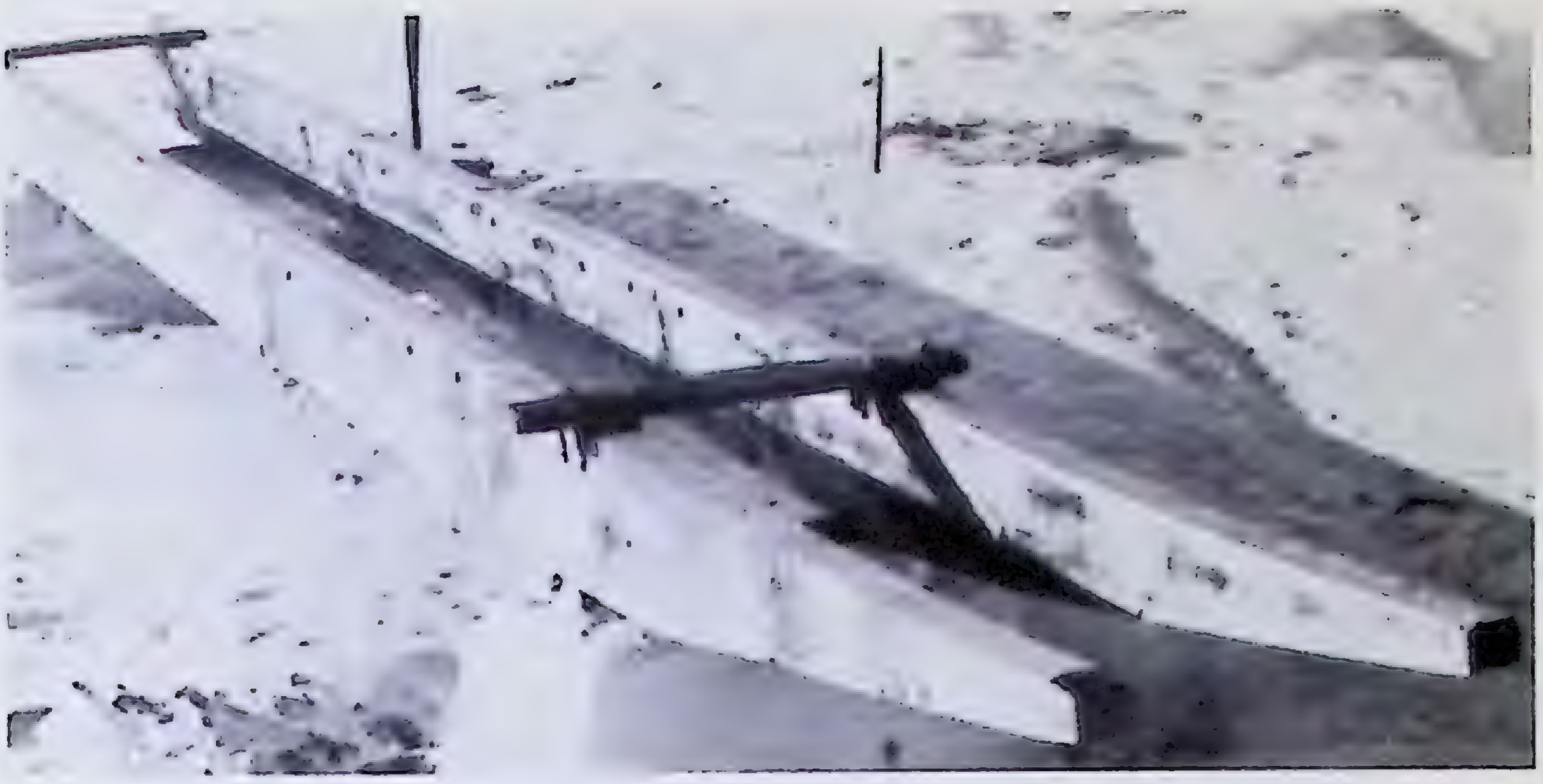
A. Planing a runner side

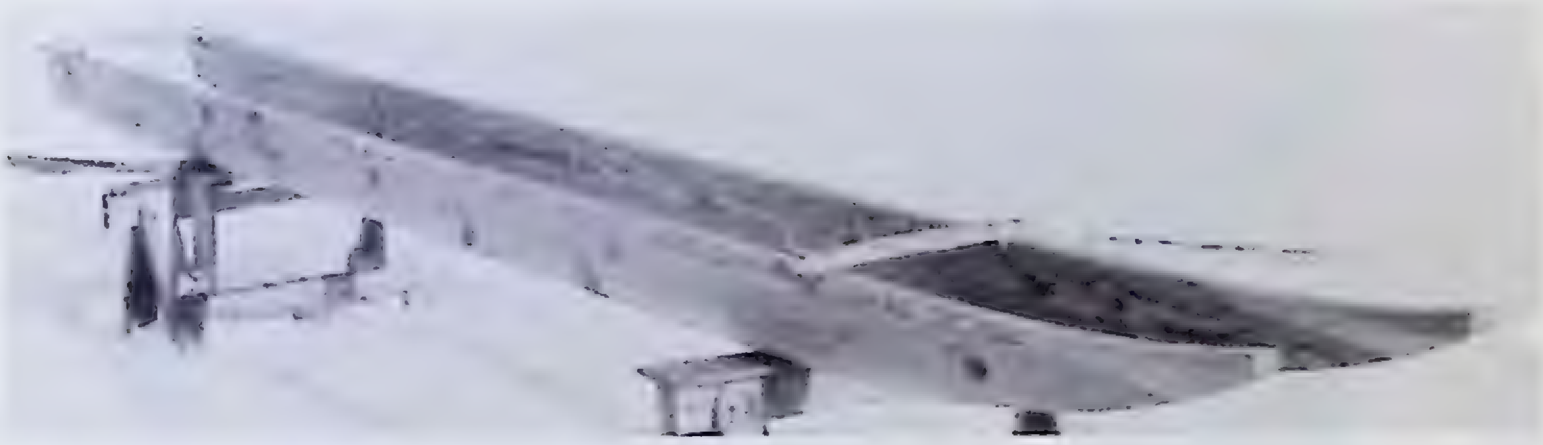
B. Boring holes for the crossbar lashings

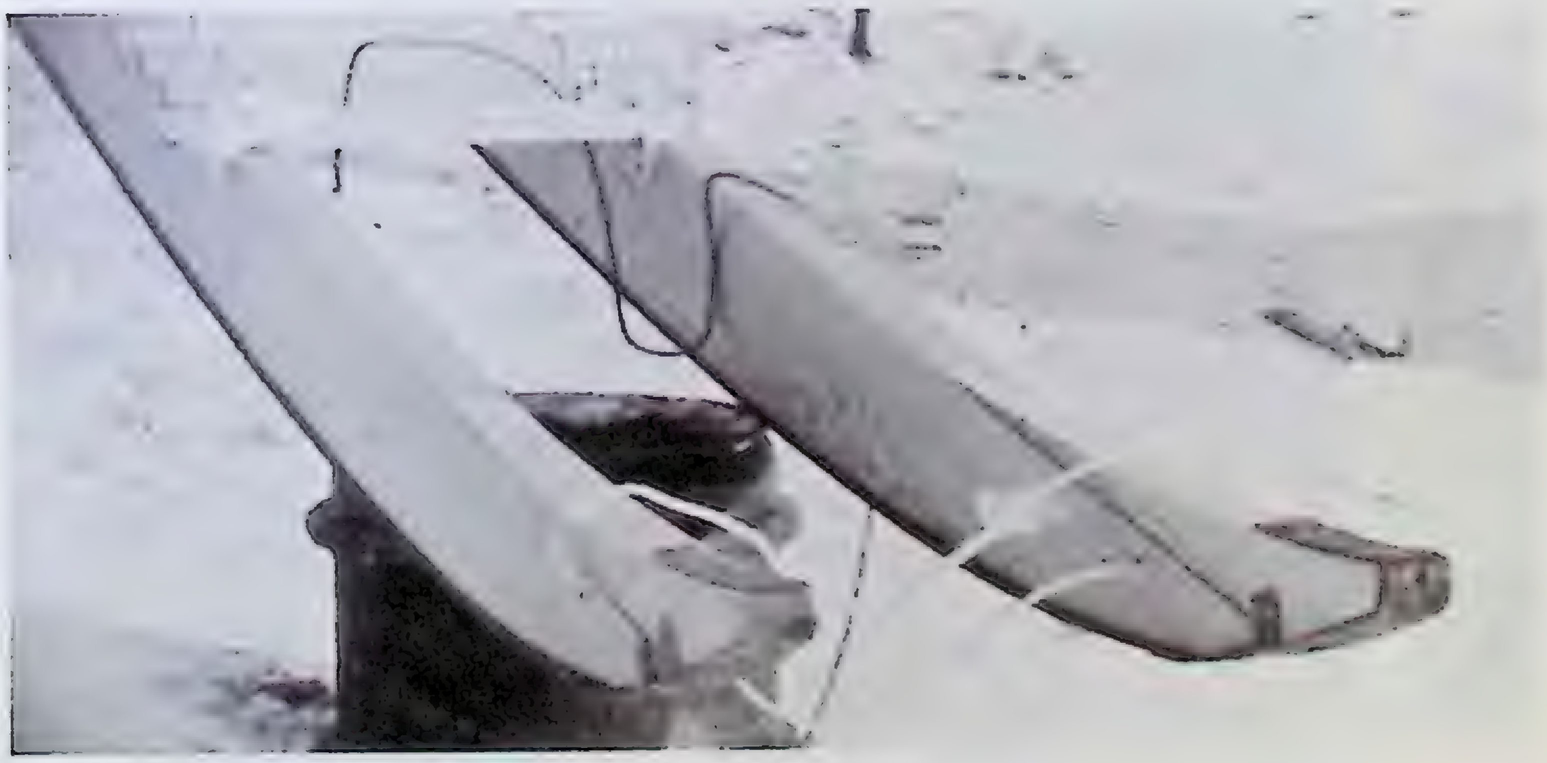
PLATE IV



Top: Ripping drift lumber
Centre: Qupiqrualuk's store-bought planks
Bottom: Yusi renovating old runners

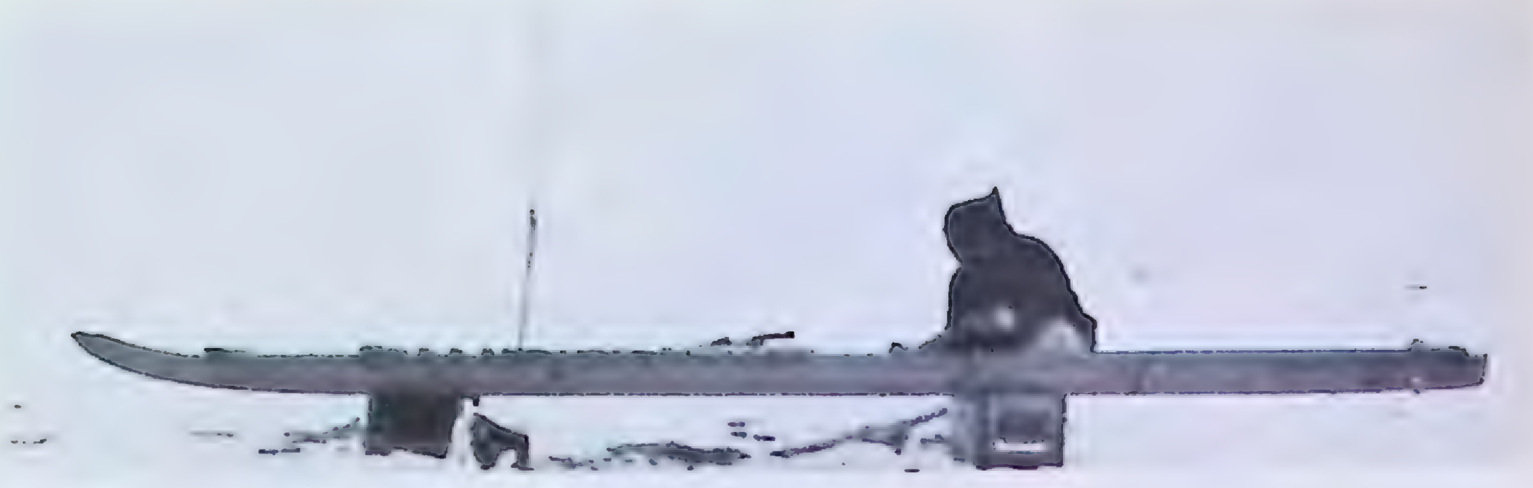






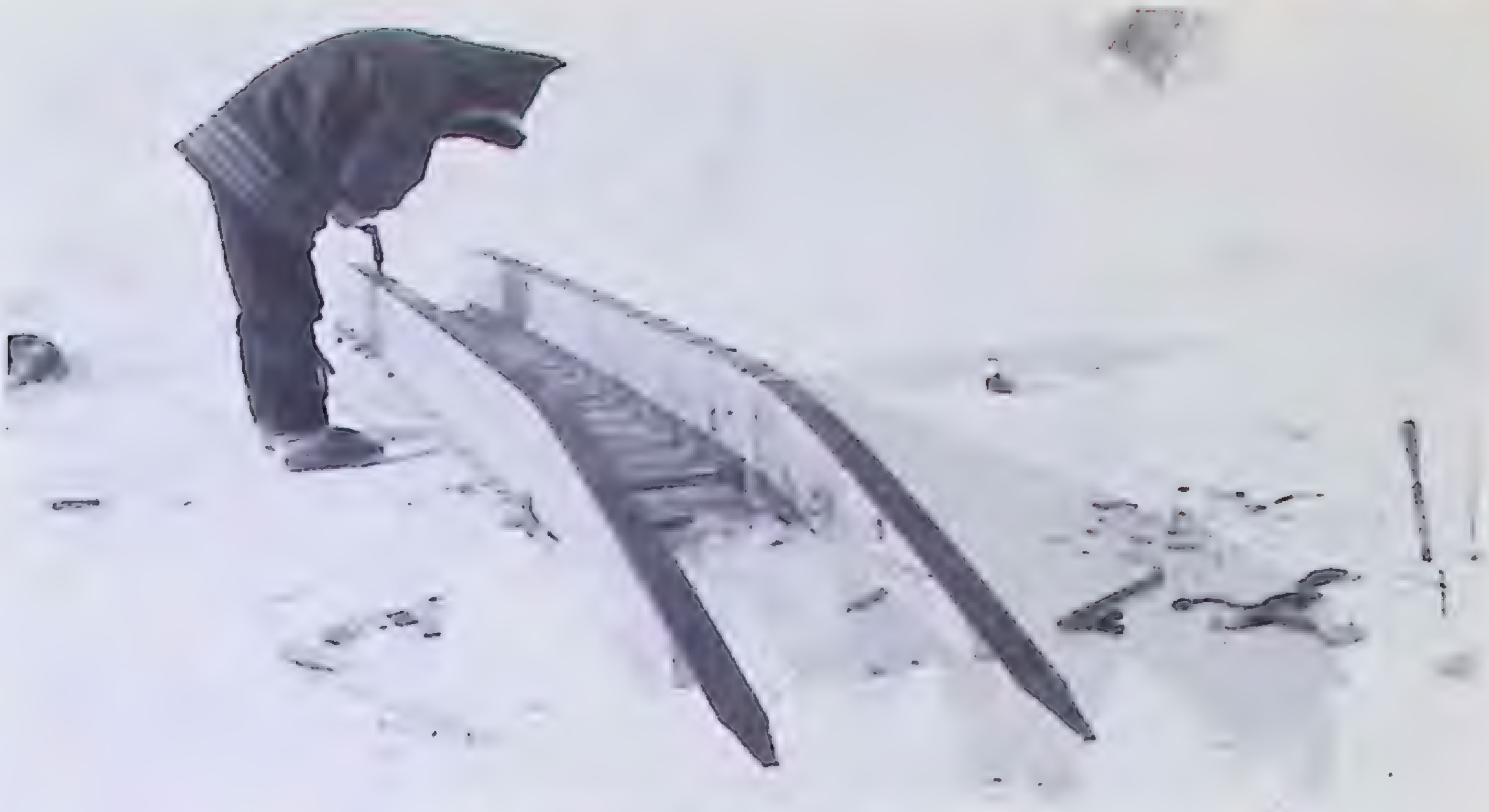
Assembled runners

Top: Davidialuk's
Centre: Qupiqrualuk's
Bottom: Liivai's. Note alternative line attachment.

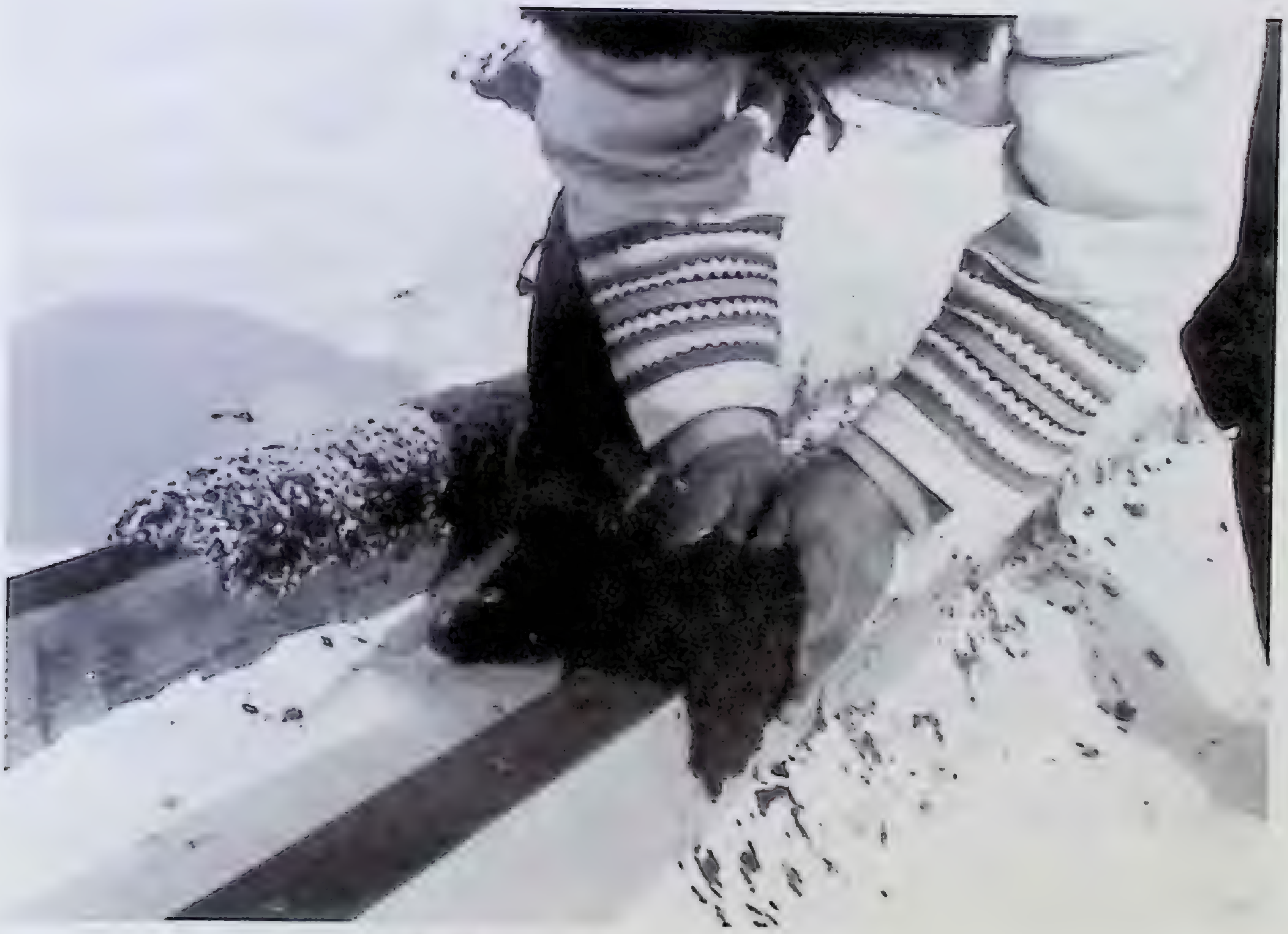


A. Liivai's sled in profile

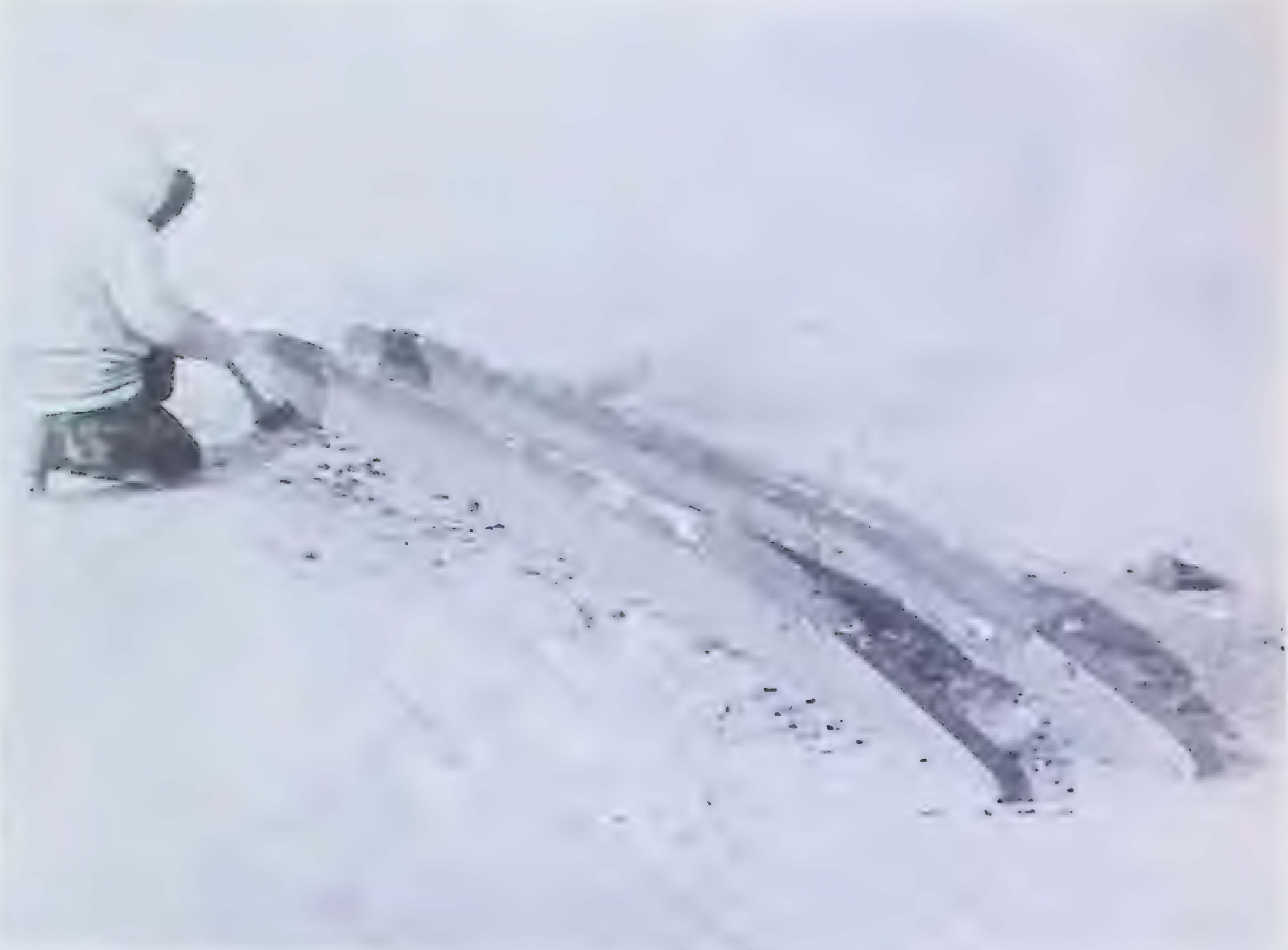
B. Cleaning mud



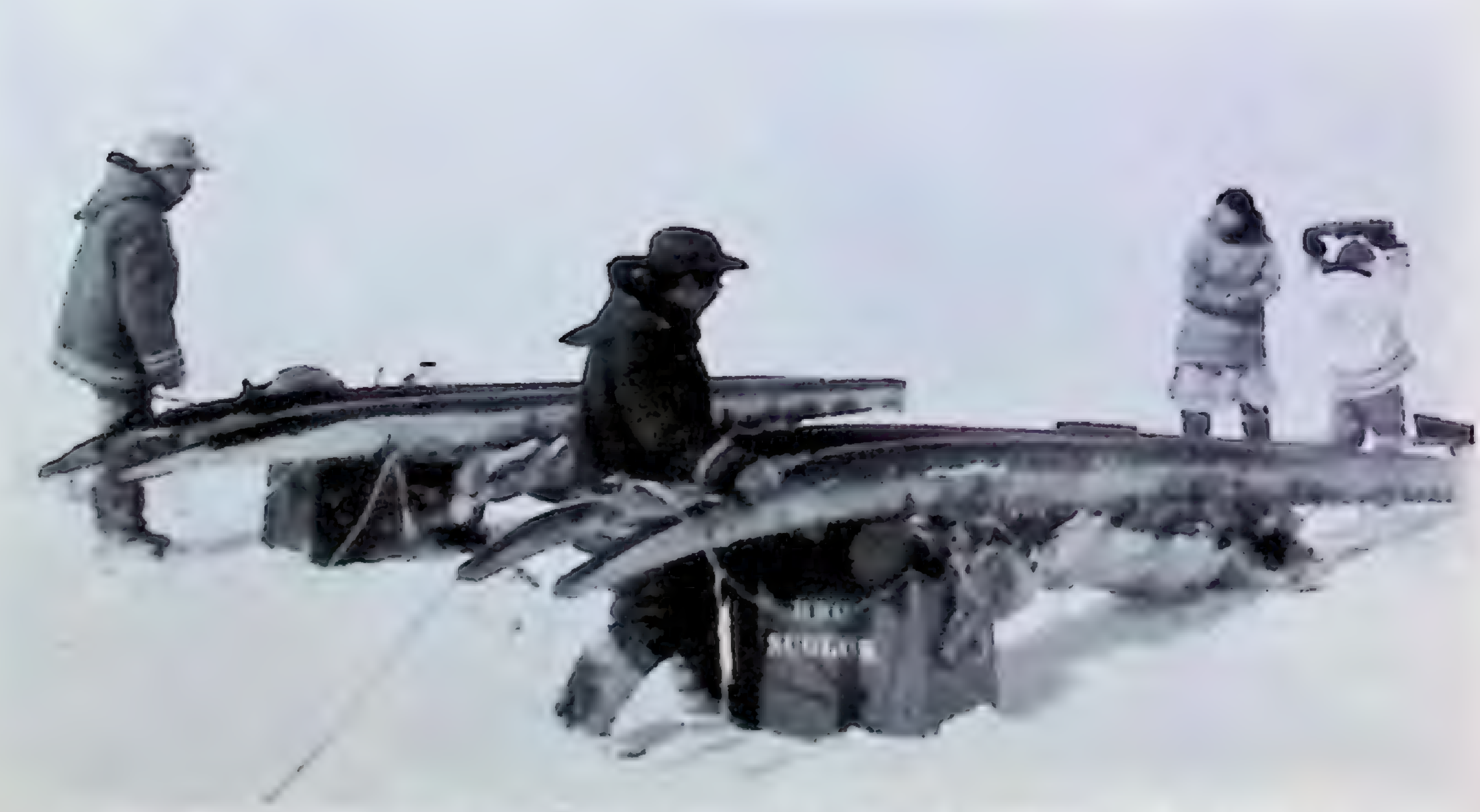
A. Putting on the steel shoeing



B. Putting on the mud shoeing

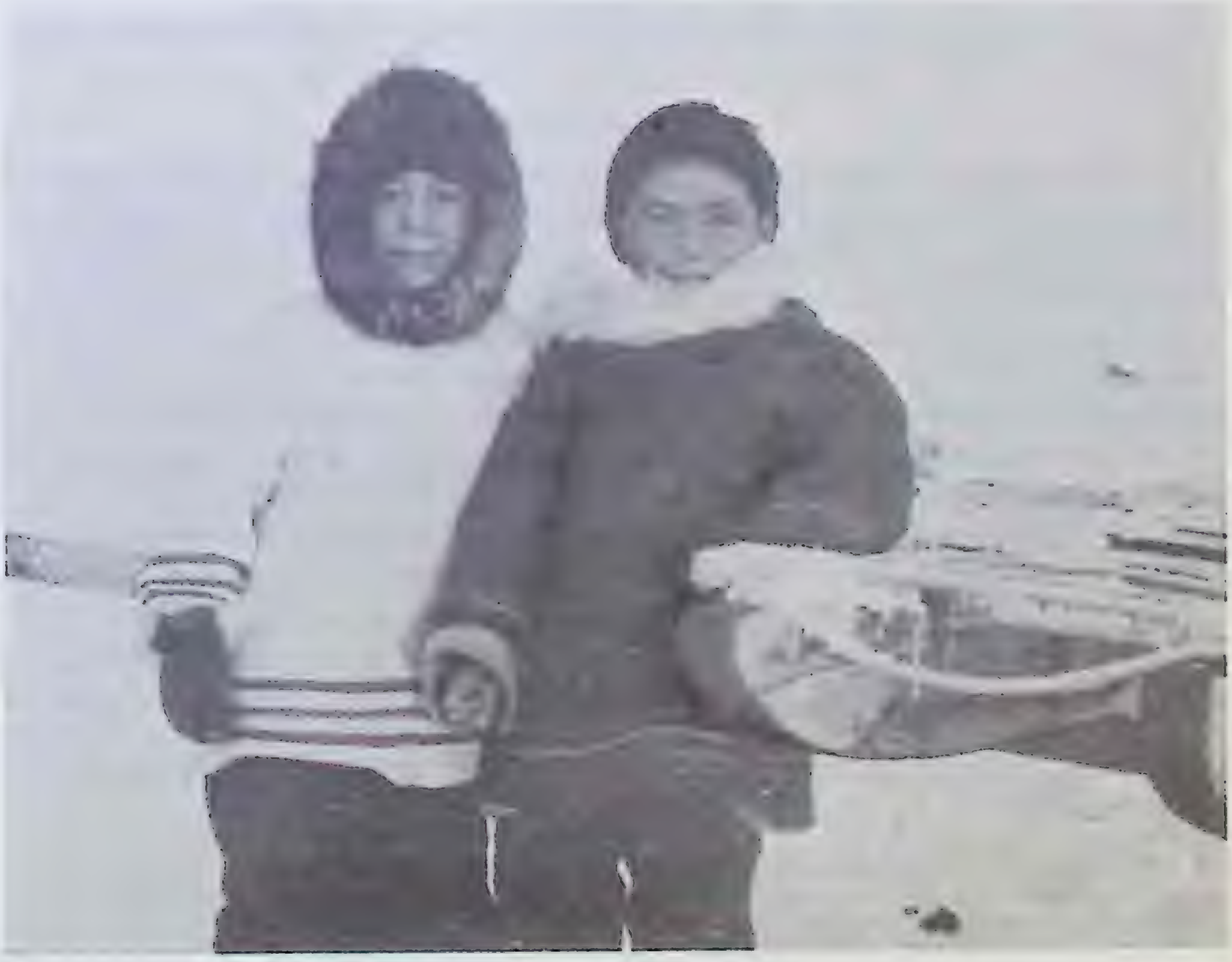


A. Removing the ice formed on the runner side by the mudding



B. Icing runners between Sugluk and Ivuyivik (Photo by Pootoolik Okittuk)

A. Following in old tracks between Naulirakvik and Povungnituk



B. Fully rounded heels on a sled at Naulirakvik

THE PACALIK KAYAK OF THE BELCHER ISLANDS

BY D. L. GUEMPLE

RÉSUMÉ

Le présent article expose le détail de la fabrication du *pacalik* ou kayak à deux places que l'esquimau des îles Belcher fabrique dans l'est de la baie d'Hudson. Les aspects sociaux et économiques de la fabrication de kayaks dans les îles Belcher ont été exposés par Milton Freeman et le lecteur pourra se reporter à son article pour trouver des renseignements de fond. Le *pacalik* n'a jamais été d'un usage généralisé soit dans les îles soit ailleurs dans la baie d'Hudson et on n'en utilise pas aujourd'hui dans les îles. A l'aide de textes, de photographies, et de diagrammes, est décrit comment l'esquimau s'y prend pour obtenir la matière première et la préparer, pour tailler, finir et ajuster le bâti, pour préparer et coudre l'enveloppe du kayak et enfin pour monter toute l'embarcation. Sont ajoutées, quelques notes sur la façon usuelle de réparer et de rapiécer l'embarcation et une étude de temps est annexée qui révèle le nombre d'heures nécessaires à la fabrication de ce kayak.

SUMMARY

This article sets forth the details of the manufacture of the *pacalik* or two-hole kayak made by the Belcher Island Eskimo in east Hudson Bay. The social and economic aspects of the Belcher Island kayak complex have been described by Milton Freeman, and the reader is referred to his article for general background. The *pacalik* was never widely used either on the Islands or elsewhere in Hudson Bay, and none are in use in the Islands today. With text, photographs, and diagrams, the manner in which raw materials are procured and processed, the cutting, finishing, and fitting of the frame, the preparation and sewing of the kayak's cover and, finally, the assembly of the entire craft are described. Some notes on how the craft is customarily mended and patched are included, and a time study showing the number of hours required to make the craft is appended.

INTRODUCTION

The purpose of this paper[1] is to set forth the details of the manufacture of the *pacalik*[2] or two-hole kayak, a craft used until recently by the Eskimos of the Belcher Islands in Hudson Bay. The focus here is on the details of its form and the manner, sequence, and technique of its construction rather than on its place in a socio-economic milieu. Ordinarily, one would expect to find this 'larger picture' included as part of the description. As it turns out, this background material has already been set forth by Milton Freeman (1961) in a recent paper dealing with the whole Belcher Island kayak complex. Actually, Freeman's investigations, together with his writing on the subject of kayak usage in the Islands, served as a stimulus for the manufacture of the kayak described here.[3] What follows, then, would more appropriately be titled 'APPENDIX A,' and be attached to Freeman's paper. There is little that can be added to Freeman's broad study save the description of the production of the kayak itself. To avoid redundancy, then, the writer concentrates on the details of construction. Where differences appear between the facts as described here and those given by Freeman, comment is made in the footnotes.

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[1] The research on which this paper is based was made possible by the generous support of the National Museum of Canada. To Eugene Arima at the National Museum go my special thanks for his many contributions to this paper, most notably the creation of the chart, p. 130.

[2] The orthography used in this paper follows the phonemic values set forth by Lefebvre (1957) with the following exceptions: for his /ts/ I use /c/; I retain the phonetic values [h] and [s] which he assigns to the phoneme /s/. As the Port Harrison and Belcher Island dialects are closely related, all values set forth by Lefebvre hold good in the latter. The changes are for clarity.

[3] The craft was procured for the National Museum as a result of interest raised by Mr. Freeman's research and writing.

The *pacalik* kayak of the Belcher Islands is, to all intents and purposes, like any other kayak used on the Islands except that it has two cockpits, accommodating two paddlers rather than a single paddler. Neither the details of its construction nor the techniques employed in building it are at variance with those employed in making the common variety of kayak. Some members, notably the gunwales,[1] are longer, or wider, or thicker. And, as one might expect, there are numerical differences associated with this increase in length, notably in the number of ribs which shape the bottom of the craft.[2] It should be kept in mind that while the *pacalik*, as distinct from other, more conventional craft, is the focus of interest here, I am nevertheless describing the construction of the common kayak as well. Where differences and variations occur, they will be described in footnotes.

The *pacalik* was never a very prevalent craft on the Islands. Only four such craft are known to have been used (Freeman, 1961),[3] and none remain today. Freeman states that first mention of the *pacalik* appears in the literature before 1955, in the writings of Charles Desgoffe (1955). One might assume, then, that it is a relatively recent innovation. This correlates well with the writer's own information. No one to whom he talked was able to give a time before the mid-1940's when these craft were used.[4] The origin of this innovation is unknown, although one may speculate that it was an independent invention, as Freeman suggests.[5] Why it lost currency so quickly is likewise open to some question, although the introduction of power craft, which has led to the obsolescence of kayaks generally, may have played some part.

In making arrangements for the kayak, it was stressed that the craft was to be made in the 'traditional manner,' i.e., as kayaks were made twenty or thirty years ago before the widespread use of nails and modern tools. It was hoped that this would make it possible to observe the use of traditional tools being employed in the manufacture of traditional technology. Unfortunately, no 'traditional' tools were available for use; all tools used for this type of work have been replaced by more modern counterparts, and the kayak was made with a set of implements not unlike those used by most modern-day carpenters.[6] The result was a more speedy construction on the one hand and, at least so the writer was told, a better-made craft manu-

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[1] Common kayaks attain a length of roughly 16 to 18 feet; the *pacalik* nearly 25 feet (Freeman, 1961:90).

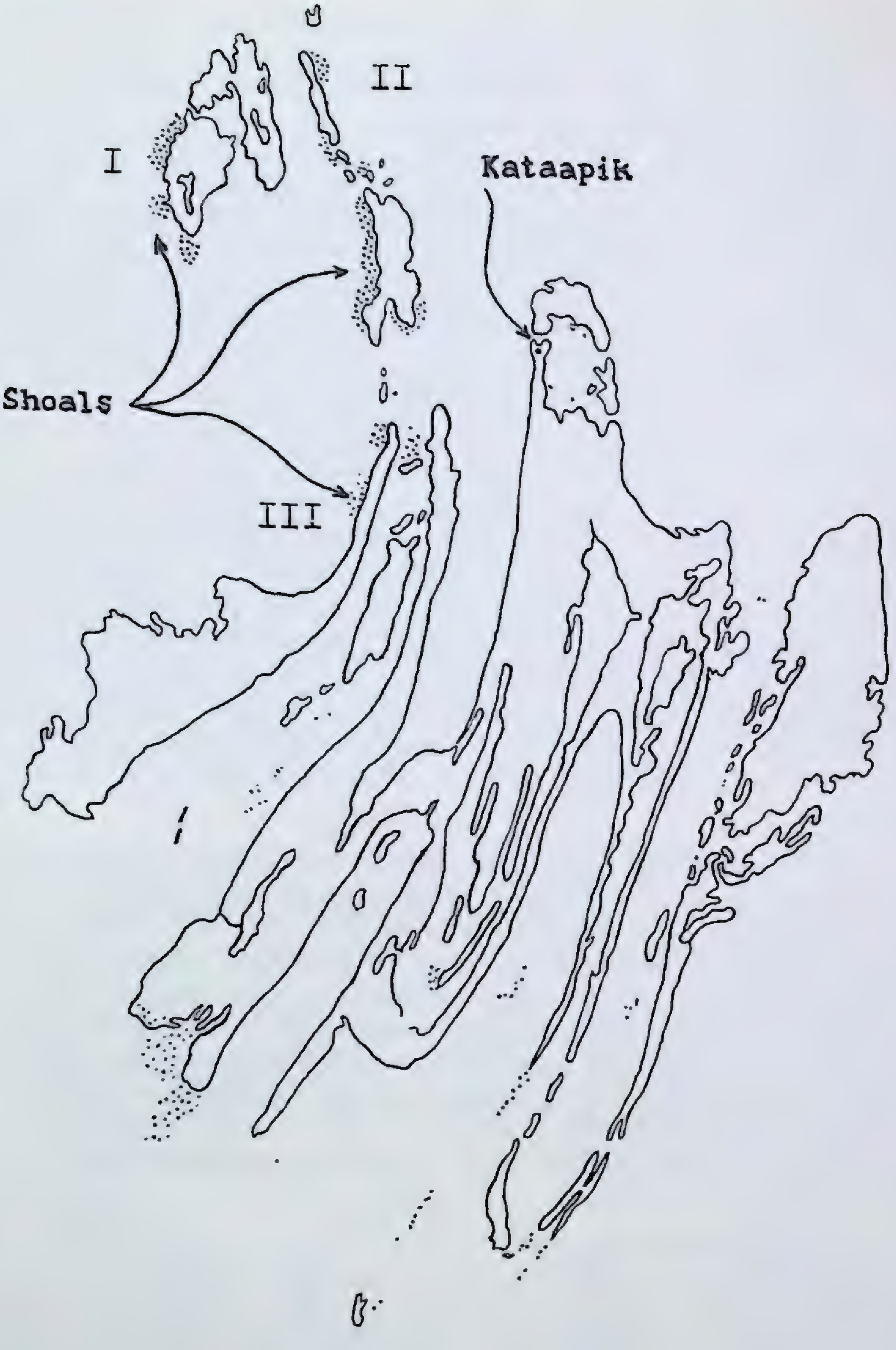
[2] Standard craft have approximately 22 ribs; the *pacalik*, 30 to 33 ribs (Freeman, 1961:70).

[3] My data are at variance with Freeman's on the matter of precisely who owned and operated these craft. Freeman (1961:71) lists Qittusuk, E9-103; Ajugutaina, E9-75; A?aaluk, E9-19; Apakak, E9-159 [*sic*]. The last (E9-156) is said to have shared his craft with his brother Ali, E9-8. My informants stated that the fourth owner of a *pacalik* was Ajugutaina, E9-34, who shared it with his son Ippak, E9-36. I got this information from Ali, E9-8, the one whom Freeman lists as the other owner. Since he made no claim to having been the owner of such a craft, I presume Freeman's data to be in error. The craft owned by E9-19 he shared with his brother, E9-18; E9-103 was partner to Nungak, his son E9-106; E9-75 was partner to his son, E9-78.

[4] So far as I could determine, the four pairs of *pacalik* owners mentioned are the only persons who ever owned such craft. Calculating that the youngest members of these partnerships must have been at least 12 years of age before they could use the craft with any degree of success, the date of their introduction would be somewhere in the early 1940's, since all the younger partners were born during the decade beginning in 1930.

[5] One could, of course, argue this as a case of 'stimulus diffusion' (Kroeber 1948:691), since the craft seems to have come into the Islands very late, during a period of rather intense contact with Anglo-Canadian culture, beginning in 1941–1942.

[6] *See* a list of tools used on page 131.



MAP 1—*Showing location of camp at which the pacalik was made and the areas (I, II, III) searched for the driftwood used in making the kayak frame.*

factured in the traditional form, if by rather unorthodox means.[1] Actually, 'traditional' techniques were employed to the extent that some tools had to be made outright; others had to be altered to fulfil a particular need.

PRELIMINARIES

Let us now turn to the subject of the kayak proper, and its construction. Before describing the making and assembling of the craft, it will be useful to discuss first the raw materials, the tools, and the initial preparation of raw materials.

Raw Materials

Although the raw materials employed in the production of the craft were mostly native in origin, there were three exceptions. The first was fine cotton gilling twine (usually employed in the making of fish nets), which, when combined with caribou sinew, made the thread for sewing the skin cover on the kayak. The second raw material consisted of two large (approximately 12^d common) nails used to fasten the two gunwales together at the bow prior to the insertion of the more traditional sealskin thong ties. The third was button thread, also used to sew the cover. The writer's principal informant (E9-1) stated that the use of the nails and the thread has been common procedure for a very long time—certainly since the 1930's. The use of the gilling twine is a more recent innovation, although my informant could not remember when it was first employed. Presumably it came into use somewhere around 1935, or perhaps later, when gilling twine was introduced into the Islands.

Other raw materials, all of native origin, consist simply of wood (*qiiu*), sealskin (*qisik*), and the dried hamstring or calcaneal tendon of the caribou (*ivaluk*). The first two elements are obtained locally. The latter must be imported from the mainland since it is not available locally—there being no caribou population on the Islands. Even here, however, local substitutes are available and are sometimes employed. My informant on the matter (E9-20) stated that caribou sinew is the preferred material, although occasionally sinew from the seal (either *Erignathus barbatus* or *Phoca hispida*) or white whale (*Delphinapterus leucas*) is used. The length of the fibre is the prime determinant in all cases. Sinew from the white whale (*hailaluga*) is longest, but it is usually in short supply as well as being harder to work. Seal (*netsik*, *uttuk*) sinew is considered too short—only six or eight inches in length. Caribou sinew (*tuttu ivaluk*) is considered preferable, as it attains a length of twenty inches, is in fairly abundant supply through regular contacts with the mainland,[2] and possesses other characteristics that make it the preferred material, viz., it is easily worked; it is relatively uniform in thickness; and the threading end (insertion end) has a fine point.

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[1] The craft is 'traditional' rather than modern in that sealskin lines were used to assemble the parts of the frame. Today, nails take the place of these sealskin ties. The only other 'modern' parts are the thread used in binding the cover and the gilling twine which goes to make up the thread for the cover sewing. Both are merely economy measures—to save caribou sinew.

[2] Contact was maintained with the mainland even in early times. Trips were made to the mainland in the winter by dog sled to trade (Flaherty 1918) and to see the missionary who would come up from Fort George to hold services once a year (*see* Lewis 1904). Legend has it that, prior to the establishment of a permanent post at Great Whale River, on the coast opposite the mainland, the Eskimos used to meet each spring at Richmond Gulf, on the coast to the north, to exchange birdskin parkas made on the Islands for caribou pelts and caribou sinew, with the mainland Eskimo. Since the 1920's, summer trips have also been made by kayak and by power boat.

Wood. Wood is obtained locally from driftwood washed up along the northern and western shores of the Island group. It is ordinarily sought from mid-April through late May, while the ice is still firm and the snow along the shoreline has nearly disappeared. Earlier wood-hunting expeditions yield little suitable material, since heavy snows which accumulate in the sheltered places, favourable for the deposition of driftwood, obscure its presence, and the frozen ice and snow make it difficult to remove. After May the ice is quite unsuitable for moving heavy loads of wood, and the loose drifting pack-ice tends to pile up in great mountains along the shore, often covering or making inaccessible these driftwood deposits. There is always, of course, the open water season, between July and November. When asked why suitable driftwood could not be collected during this season, my informant stated that wood was too hard to reach at this time; one would have to go some fifteen miles by kayak to find it and then tow it back to camp. In the high seas, which often occur around and between the Islands of the group, such a task would be highly dangerous, and, at any rate, this would delay the making or repairing of a kayak till almost mid-July, at which time nearly half the boating season would be over.[1]

Selection of wood suitable for the construction of a kayak is a more-or-less careful process. Ideally, the wood should be long and straight, and the grain not twisted or split. It should be relatively free of knots. It should include two logs twenty or more feet in length, the smaller end having a diameter of six or more inches, the larger end a diameter of fourteen or more inches. In addition, the kayak builder will gather five or six logs of lesser length—say, eight to ten feet—and one or two of these should include the stump end of the log. If this is not possible, an effort will be made to find a stump or a piece of wood with an abrupt natural bend of thirty degrees midway in its length of sixteen to eighteen inches. Smaller pieces will be given preference over larger logs, if they tend to conform to the dimensions of particular finished pieces. This is particularly the case where the boomerang-shaped cockpit forward support brace is concerned (*see* below).

In practice, of course, ideal pieces are not always available, and the builder will find it necessary to use less desirable wood as a substitute for better natural shapes.

Gathering wood occupies a period of four to seven days, and the builder may find it necessary to visit several sites to find the proper materials. In this particular case, three areas were visited, of which only two (sites I and II) produced any wood suitable for building purposes. Map I shows the locations of the sites visited in search of wood for this craft.[2] The visit to the other site (site III) yielded a couple of planks suitable for making duckboards, with which the local Eskimo now floor their tents, and also a long, thin pole (three to five inches in diameter) some fifteen feet in length which the builder used in the construction of an aerial for his radio. A large amount of wood for heating purposes was also obtained at this location.

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[1] The widespread use of power craft, both canoes and whale boats, on the Islands today would both lessen the danger of such trips and speed up the gathering of suitable wood. It does not appear to have occurred to the Eskimos to employ them for this purpose, however. One might also gather wood during the summer season for building and repair of kayaks for the following spring, the writer pointed out. The reply was that wood gathered so prematurely would undoubtedly be burned as firewood in the fall and that, at any rate, the following year was a long way off, and who knew what might happen between one summer and the next. The writer's observation was that a Belcher Islander will *never* anticipate his needs beyond the span of three or four weeks' time.

[2] Note the distance between the builder's camp at *Katuapik* ('the little door') and the sites. Going and coming usually requires a full day's travel each way at this time of year, with an overnight stay to rest the dogs or to hunt.

The builder will, when possible, attempt to secure more wood than will be needed for his own purposes. Often this additional wood will be distributed among other camp members to be used as firewood or for repair of their own kayaks, but this is seldom done before the builder's own work is completed, since the primary purpose in securing the additional wood is to ensure that the supply will be sufficient to meet his building needs. This is a necessary adjunct of the work because of the nature of the material. Fir is brittle and splits easily, and working with the crude tools available to the Eskimo, however skilled he may be at his job, often leads to a split rib or broken stringer. The extra material, then, is added assurance that the job can be completed without the need to interrupt the work schedule to go in search of additional lumber.

Skins. Skins for making the covering of the kayak are likewise collected during the spring of the year. It is during this period, April and May particularly, that the seals lose their fur, and the skins are thus not satisfactory for sale to the local trader. They are also considered to be less suitable for the making of skin clothing. Seals are also more easily hunted at this time.[1] It should not be understood, however, that the primary reason why boats are either constructed or repaired and re-covered during this season of the year is that the skin is inferior and cannot be otherwise used. Instead, the choice of spring for the season of kayak repair and building depends on a complex set of variables.

Skins for kayak covers should be large, and between sixteen and eighteen will be required for a two-hole kayak.[2] Ideally, the skin should be relatively free from holes, the result of harpoon and projectile wounds. In practice they often have several holes which are patched after the covering is applied to the craft. Skins will commonly be left on the carcass for as long as two to three weeks before they are prepared for the cover. Generally, seals are flensed as their meat is needed, not as they become available. However, there is some element of preparation in the collecting of the requisite number of seal, and additional precautions are taken, particularly in seeing that the skins of recently killed seals are not exposed to direct sunlight until the day they are applied to the kayak frame.[3] When exposed, and occasionally even when protected from sunlight, the skins rot and rupture when stretched over the scraping block to remove the fat and hair, or when stretched on the kayak frame proper. For these reasons, more than the requisite number of skins are usually procured.

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[1] It is at this time of year that the seals bask on the ice. A good hunter can bring in from eight to twelve seals a day during this season.

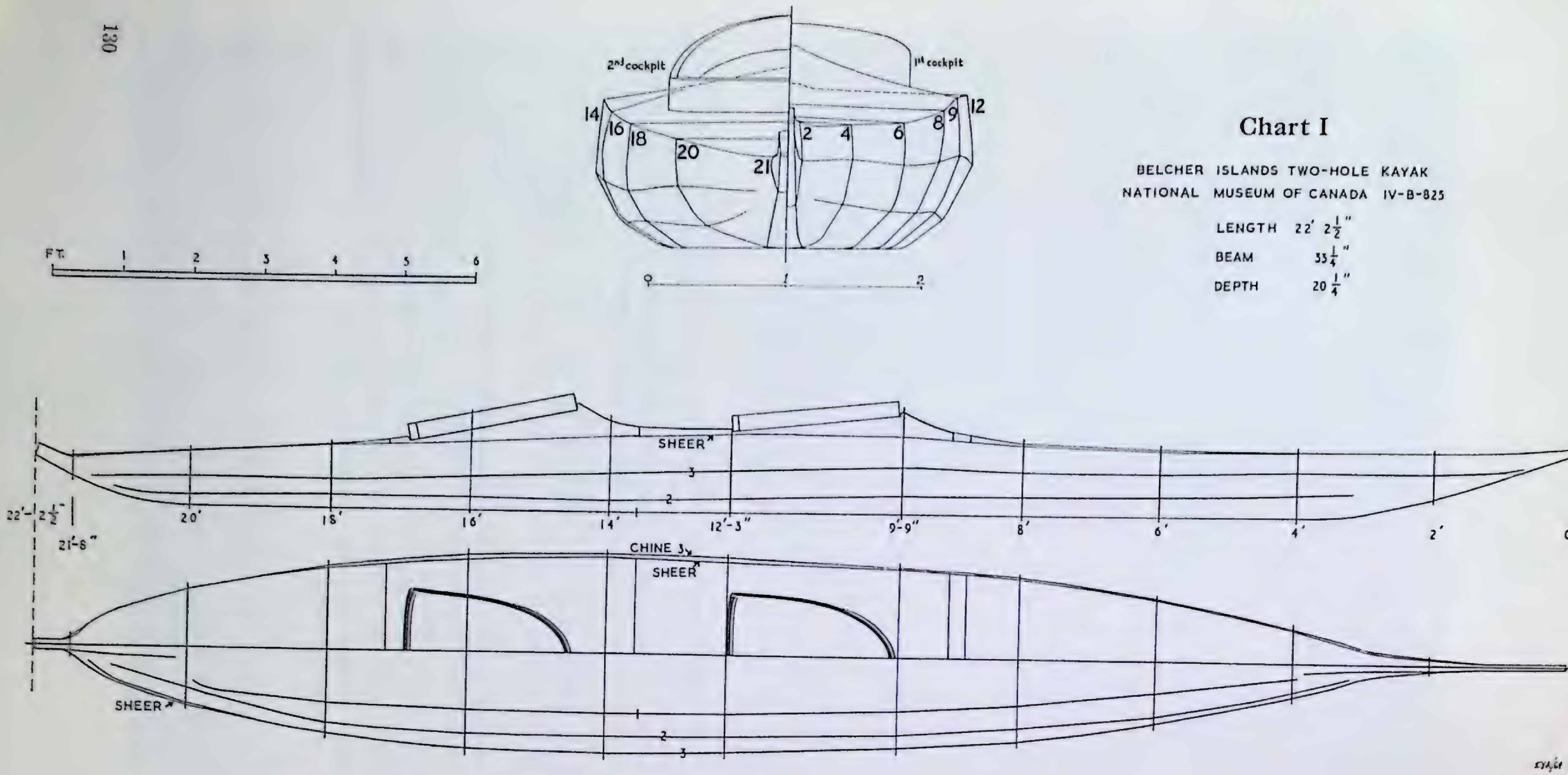
[2] Twelve to thirteen are usual for a one-hole kayak, plus two skins cut up to use as tying line.

[3] An exception to the rule applies to the one or two skins (two in the case of the admittedly large, two-hole kayak) cut up to make the sealskin lines for tying the frame of the kayak. These are prepared and stretched on poles two or three days in advance of the covering day so that they will dry.

Chart I

BELCHER ISLANDS TWO-HOLE KAYAK
NATIONAL MUSEUM OF CANADA IV-B-825

LENGTH	22′ 2$\frac{1}{2}$″
BEAM	33$\frac{1}{4}$″
DEPTH	20$\frac{1}{4}$″



Tools

As stated in the earlier part of the paper, the tools used in making the kayak are rather conventional. They consist of the following: long-handled axe, brace and bit, hand-axe, six-inch jack plane, hack-saw, adze, and an assortment of knives, notably the hunting knife and the pocket knife. Only one basic tool is absent from this assortment: the hand-saw. Indeed, the writer found only three or four on the Islands. The hand-saw is not commonly used in any woodworking task because it cannot be easily sharpened when dulled and because it rusts badly in one season. The hack-saw is used in preference, therefore, primarily because it overcomes both of these shortcomings—with blued, disposable blades—and also because it can be used to cut soapstone, which the Eskimos use in carving figurines for sale. There are likewise needles and thimbles used by the women in preparing the cover of the kayak, although some innovation can be found here.[1] Traditional tools include the semi-lunar knife (*ulu*) used by the women (Plate 1), and the less well-known skin scraper (*sakuruutik*) used in cleaning the skins.[2] A couple of home-made tools also appeared during the course of the work. One was a drill bit, the other a hunting knife adapted to a specific task. When the gunwales were ready to be bored for the insertion of the lashings for tying the deck braces into place, no suitable drill bit could be found. All bits available in the camp were either too large or too small. The workers located a broken drill bit and cut off the auger part, leaving the shaft only. The shaft was then cut with a hack-saw along one side about halfway through the bit, the slot running parallel with the long axis of the shaft. One-half of the split shaft was then ground off with a small hand file, and the other side was filed till sharp. The point was then sharpened to make a usable bit.

The other innovation was a knife with a curved blade made by one of the men for working on the edges of the bottom stringers, once these were applied, and for finishing the stern post. Beginning with a three-inch blade hunting knife, the worker cold-bent the blade to a semi-lunar shape using a twelve-ounce hammer and a rock. The bending of the blade caused the cheap wooden handle of the knife to split; it was replaced by two wooden slabs, notched to accommodate the haft and bound tight with copper wire. The finished knife was not unlike those used by Indians on the mainland for filleting fish, except that the blade was broader. Other 'tools' included various receptacles of modern origin used for waste, steaming and forming, and so on.

CONSTRUCTION OF THE *PACALIK*

(See Chart, p. 130)

The actual making of a kayak moves along three lines: the preparation of materials; the putting together of these materials into the components of the craft; the accommodation or fitting of these components and their assembly into a finished product. Although the construction is a continuous one, moving from raw materials to finished product, there are a series of major events in the ongoing process. These are points at which the employment of work crews, production techniques, and materials change markedly. These changes, which constitute the natural order of events in producing a kayak, will be the main topics discussed in the description that follows. The order represents only roughly the chronological order of the formation of the craft. For example, the construction of the cockpits went on simultaneously with the preparation of the skins for the cover and with the assembly of the gunwales and cross-braces.

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[1] Needles are quite often ground to a triangular shape for sewing, and a number of semi-lunar surgical needles taken along by the writer in his first-aid kit were quickly appropriated for sewing purposes.

[2] The skin scraper is composed of a piece of sheet metal of approximately one-sixteenth inch in thickness, four inches wide, and six inches long. A wooden handle is applied to one of the six-inch edges for gripping; the opposite face is left dull so as not to cut the skin while scraping.

Preparing the Skins

Aside from gathering driftwood and, of course, hunting seals, preparation of the skins for the kayak cover is the first step toward the building of a new kayak. Ordinarily, the wife of the man who owns the kayak to be covered, or, in this particular case, the wife of the man building the kayak, will work alone, tending her child and taking care of household tasks at the same time.

Before the preparation of the skins begins, a small tent is erected near the entrance to the household tent. Here the skins and carcasses of the seals are stored away from the direct rays of the sun. There are no strict rules for preparation of the skins, so far as the writer was able to establish. The seals may all be flensed during the same day, or they may be flensed one at a time as a carcass is needed for food. In the former case the tent is erected before flensing is done, and the skinning is accomplished inside this subsidiary tent. In the latter case, a large receptacle, ordinarily a large galvanized wash tub, is set aside and the skins are merely thrown into it as they are cut from the seal carcass. In any event, the tent will be erected before the actual preparation of the skins begins, both as a place to store the prepared skins when they are finished, and as a place to store meat, equipment, and household goods to make sufficient work-space in the family tent.

To prepare skins, a woman takes one or two into the tent in a large washtub. The tub is commonly situated near the entrance to the tent (away from the platform) on the right-hand side (as one enters the door of the tent). This is by tradition the place where butchering is done and is the place in the household most commonly occupied for the performance of 'dirty-work' tasks. On the first handy box or seat available, the woman sits with the washtub in front of her. Nearly always she faces the door. She then places a scraping board (*puruutik*) in the tub and drapes the skin over the board, the inside of the skin facing up. With the semi-circular 'woman's knife' (*ulu*) she makes a one-inch slit in the end of the skin. This is done by holding the skin with the thumb and forefinger, thumb on top. The third finger of the same hand is then spread about one-half inch from the forefinger, and the wrist is rotated outward from the body, stretching the skin between the index and third finger. The blade of the *ulu* is placed on top of the skin, in the slot created by the spread of the index and third finger, and the *ulu* is caused to cut a small slice at this point by bending the wrist up and down. The woman places her thumb into it from the top and uses this as a thumb-hold in order to grip the oily skin. Then, using the semi-circular knife, she cuts the fat from the back of the skin. (The woman's motion will be down and away from the body, moving from the top centre of the skin to the middle right side.) When the fat has been removed, the scraping tool (*sakuruutik*) will be employed to scrape the skin—this time in an attempt to press excess fat from it. This done, the skin is turned over and is ready to be scraped on the hair side.

To remove the hair from the skin, the worker begins by cutting a slot at the bottom of the skin in the area between the hind flippers (when working the opposite side, she begins at the head), and the *ulu* is used to remove the hair, moving against the lay of the hair from the lower end toward the head end of the skin (Plate 1). The skin is doubled on the block to form a cushion for the blade. As the woman works, she pulls the skin over the top of the scraping board until the head end of the skin is reached. When preparing scraped skins for the manufacture of boots, women are ordinarily careful to see that all the hair around the edge of the skin is removed and that which cannot be scraped away is cut away along with the rough edges of the skin itself. When preparing skin for a kayak cover, the women are somewhat more careless, and one will quite often see a hint of hair along the sewed seams of the cover.

When all the requisite skins have been scraped, they qualify as *amicak* ('thin stuff') and are a potential kayak cover. The skins are now removed from the family tent and returned to the 'work tent' where they are all stuffed in a sealskin *puuk* or 'poke.' (The poke is a sealskin bag made by removing the seal from its skin through an opening made around the face—without making the more usual ventral incision the length of the animal. The result is a whole sealskin with but a small opening at the top.) The skin is then allowed to ripen in the poke for about ten days, at which time it becomes rubbery and can be readily stretched over the kayak frame.

Thread-making

The work of preparing the thread for sewing on the kayak cover is long and is ordinarily begun well before the kayak itself is built. This allows the woman or women to do the work at a leisurely pace and gives them ample opportunity for performing other household tasks along the way. It is customary for the wife of the owner of the kayak, or, should he be a widower or a younger man, for his daughter or sister to perform the work. If an old woman lives in the camp, she may be asked to help. No remuneration is given for her part in the work except under unusual circumstances. The preparation of the thread involves two processes: the preparation of the sinew fibres (*ivaluk*); the weaving of the thread.[1]

Preparation of Sinew

Work on this process is ordinarily conducted on the sleeping platform, the woman sitting with her legs stretched out before her, the sinew placed in her lap. The woman takes from a birdskin bag[2] a length of tendon (preferably about eighteen inches long) and grips the tendon with the fingers laid flat against the palms of the hands, thumbs up, with about two inches of tendon stretched between the hands. Then moving the hands in a circular motion, she works the sinew against the palms of both hands. Periodically she will wet the sinew to soften it by placing it across the tongue, closing the mouth, and pulling it through. Then there is more working with the hands until the fibres are softened and begin to separate. Holding the tendon in one hand, she forms a pincer with the fingernails of the thumb and index fingers to separate the fibres at the insertion end of the tendon. If separation proves difficult, she will place the insertion end of the tendon into her mouth, bite down on it with her upper and lower canine teeth on one side, and draw the tendon down over the lower tooth. Because the fibres are prone to grow in thickness at the distal end of the tendon, the worker moves from the insertion end down the length of the fibre, removing excess fibres and the sheath of the tendon to ensure a relatively uniform thickness throughout its length. When a number of fibres are thus worked and separated, they are placed in a pile, the insertion ends all pointing in one direction, and tied into a bundle of twenty to thirty fibres. The fibres are now ready to be combined with No. 25 cotton gilling twine to form the threads with which the cover skins of the kayak are to be sewed together.

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[1] Somewhere between forty and forty-five threads, four feet in length, are required to sew together the cover of a common kayak. Fifty-two strings were required for the sewing of the *pacalik*.

[2] The birdskin bag is one of the few really traditional items of culture which have remained unaltered through the years. It consists of the whole skin of a *tullik* (the common loon, *Garia immer*) peeled whole from the bird, dried and sucked in the mouth to remove the oil. The skin is then turned inside out and a one-inch cuff of sealskin sewed around the opening at the top. The local people contend that they have found no suitable modern replacement as yet. All substitutes allow the sinew to become brittle from excessive drying, or to rot from dampness.

Thread-Weaving Process

With several bundles of fibres prepared, the woman first prepares to weave by cutting several lengths of cotton gilling twine approximately eight feet long. The woman seats herself either on the sleeping platform or on the floor of the household, and taking some convenient object (in this particular case an old seal-skin boot), she ties the gilling twine together with two longer lengths of sinew fibre in a simple, single loop-bow tie. She then weaves the sinew and twine together in a simple three-strand braid: the three strands are first arranged horizontally from left to right, the strands designated by 'A,' 'B,' and 'C' respectively, and the weaving pattern is A over B forming BAC, C over A forming BCA, B over C forming CBA, A over B forming CAB, C over A forming ACB, B over C forming ABC, and repeat (*see* Figure 1). The weave is fairly tight, there being an average of eight twists to one inch of thread. When the thread is woven, it will be rolled and pressed flat like a commercial shoe lace and held together with a simple hitch about the middle. Since the sinew fibres are at most only about eighteen inches long, it follows that a number of such fibres will be required for the production of a single thread. Relevant is the manner in which new sinew fibres are added to the weave. When the fibre is combined with the two other weaving strands for most of its length, with only about three to four inches of fibre remaining to be woven, the weaver prepares to insert a new fibre into the weave. She weaves to a point in the ABC weave pattern described above, where the gilling twine strand is in position A; the second (and longer) sinew strand is moving to position C; and the short fibre, the one to which the new fibre is to be a continuance, is crossing to position B. She then takes up the bundle of prepared fibres in the right hand, the left holding and separating the three-strand thread. She selects a fibre from the bundle by sight and takes the whole bundle to the weave. There she places the insertion end of the new fibre into the correct position in the weave, i.e., between the B_1 and C strands, and holds it in position with the thumb and forefinger of her left hand. She then removes the fibre from the bundle by withdrawing the bundle, which she returns to its place on the floor beside her. With the right hand thus freed she wets the three sinew fibres and twists B_1 and B_2 together. Then the weaving is continued by twisting B_1 and B_2 over C in order to catch B_2 in a twist between B₁ and C. After a few twists, the remainder of B₁ is cut off so as to prevent the thread from becoming too thick[1] (*see* Figure 1).

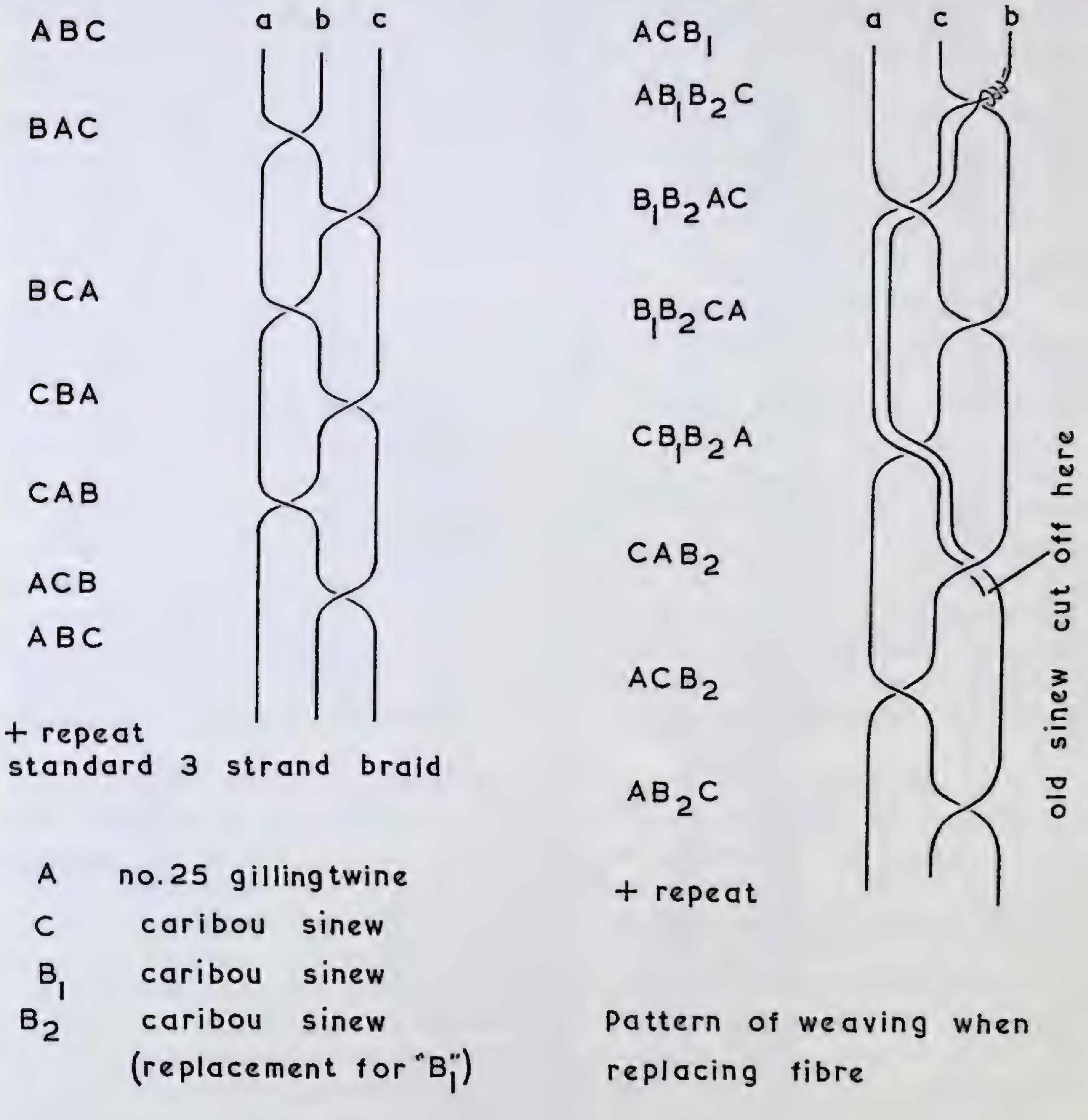

FIGURE 1—*Showing weaving pattern of sinew thread used in sewing kayak cover.*

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[1] It was explained that the procedure outlined above was a necessary one because the new strand must be inserted between the two sinew strands if it is to be secure. If the new strand is placed between a sinew strand and the cotton gilling twine, the new fibre will not stay in place but will slip loose, protrude from the thread, and cause a rough spot when the sewing is done.

THE *PACALIK* FRAME

The making and assembling of a kayak frame is ordinarily a joint venture participated in by all members of the camp. It is not a leisurely process. Once the owner has initiated the work, he spends most of the daylight hours working outside on the frame, taking time out only to perform his usual daily tasks, with additional time off to hunt or to help someone else prepare his kayak. Others will drop by to help him for a few hours, then leave to hunt or to perform other tasks. Boys will watch, or ask questions, or be sent to borrow a tool or to ask a question of someone more knowledgeable on some particular matter. Women have no part in frame-making activities. For the convenience of the reader the names of parts and terms that will be used frequently throughout this paper may be found in Figure 2.

Preparation of the Gunwale

The most important single part of the craft is the gunwale. As in all crafts of this type, it is upon the gunwale that all other parts of the frame articulate, and upon its form and strength depend the shape, balance, and strength of the finished kayak, as well as its manoeuverability, ride in the water, and so on. The kayak builder is therefore extremely careful in the manufacture of this particular part, even though he may be somewhat lax in the details of other members. Replaceability may be an important factor in explaining the care with which he works this major member of the frame. By comparison, all other parts are minor and may be relatively easily replaced before the beginning of the next boating season. To replace the gunwale, however, would require the almost complete dismemberment and reassembly of the craft—as well as the expenditure of a large quantity of work in making a new one. Other members can be made and replaced in a matter of a couple of hours.

The work begins with a long straight log having few knots. With a long-handled axe the log will be roughly planed on two opposing sides, which will later represent the top and bottom of the gunwales. This done, the worker measures off the log for proper length. He does this lying chest down on the log and measuring from fingertip to fingertip, arms outstretched. That is, one unit of measure equals a double armspan. Three such units of measure are customary for a single cockpit kayak; four units are required for a *pacalik* kayak.[1] When the proper length of the gunwale has been established, a notch will be made in the small end of the log to mark the projected terminus of the gunwale.[2] Actually, the end of the gunwale will extend beyond the notch to the extreme end of the log. This additional length will be trimmed off when the various parts that made up the bow are blended together.

Thus described, we now have a log flattened at top and bottom for its entire length with a notch cut six to eight inches from the small end of the log. Thenceforth, work in shaping the gunwale begins in earnest, and the worker will proceed more slowly.

The large end of the log is now angled to about twenty degrees with an axe. The worker begins by cutting a deep notch in the large end of the log

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[1] This rough measure probably explains why, according to Freeman (1961:70), there is such variance in the overall length of various craft. Not only will armspans vary considerably within the population, but the length may later be cut down to blend with other parts.

[2] The overall log length in this case was 25 feet 2 inches, the projected length of the gunwale 24 feet 9 inches.

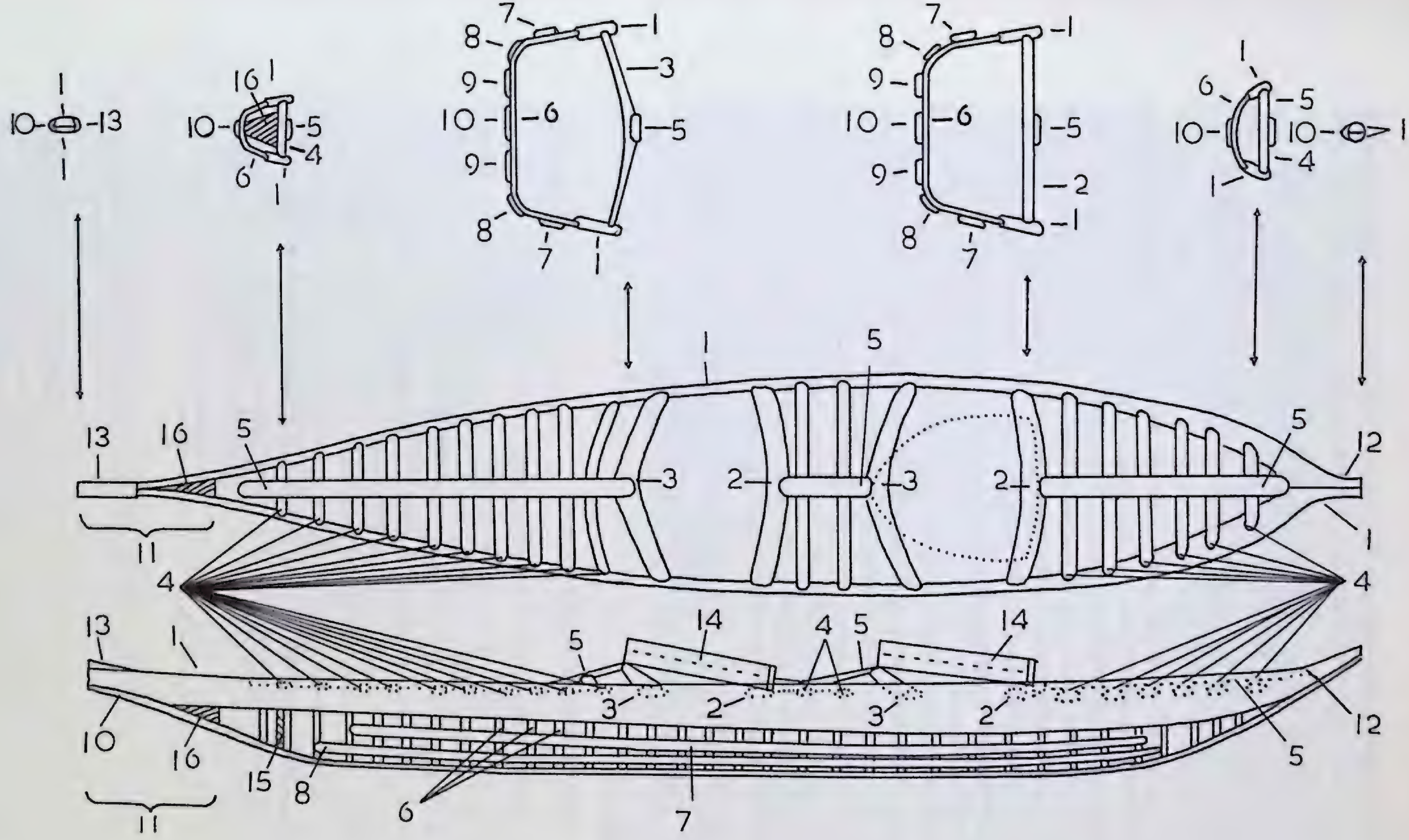

FIGURE 2—*The diagram shows horizontal, vertical, and transverse elevations of the pacalik kayak frame. Hatched parts indicate optional pieces. Scale: approx.* x $\frac{1}{48}$

1. gunwale (*apumak*). 2. cockpit rear support brace (*itvik*). 3. cockpit forward support brace (*masik*). 4. deck braces (*ajaak*). 5. deck stringer(s) (*tungikeuk*). 6. hull rib(s) (*tupik*). 7. side stringer (*kallutik*). 8. lateral stringer (*jaimik*). 9. intermediate stringer (*netiujak*). 10. bottom stringer (*natik*). 11. bow (*qinguk*). 12. stern post (*ahojak*). 13. prow (*ucujak*). 14. cockpit (*paa*). 15. support triangle (no Eskimo name). 16. support wedge (no Eskimo name).

and enlarging the edge that is opposite the end of the log till it forms a gently sloping curve to the centre of the log. Reaching the centre, he will once again begin to remove wood, so that by the time he reaches the notch at the small end of the log, the centre marks the high point of the gunwale, with the plank sloping gently toward both the bow and stern (*see* Plate 4). At the stern the contour rises sharply again to an elevation equal to that of the centre of the gunwale (*see* Figure 3).

The log is now halved longitudinally to form two pieces. Beginning at the small end, the worker puts a V-shaped notch in the end of the log. The log is then scored on both planed surfaces for a length of five to six feet. The axe is applied once again at the notch to begin the split, and a wooden wedge, cut from any available piece of scrap, is inserted in the split and driven in till there is some tension on the split. The worker then returns to scoring, reworking the original surface cuts, and extending them down the length of the log for two to three additional feet. When the split lengthens, the wedge is moved forward along the log, this time driven in from the top. A second wedge is prepared and (the log being scored on the bottom) driven in from the bottom. Alternate scoring, splitting, and 'wedging' then takes place, as the worker moves along the log from the small to the large end, following the same sequence of procedures. Periodically, before moving the wedges forward, the worker will cut away from the centre of the log any loose splinters which fail to split free as the log parts. As the larger end of the log is reached, the work proceeds very slowly, since the deep notch in the log weakens it at this juncture, and should a bad split occur, it may easily ruin the stern post. There are now two gunwales (Plate 2).

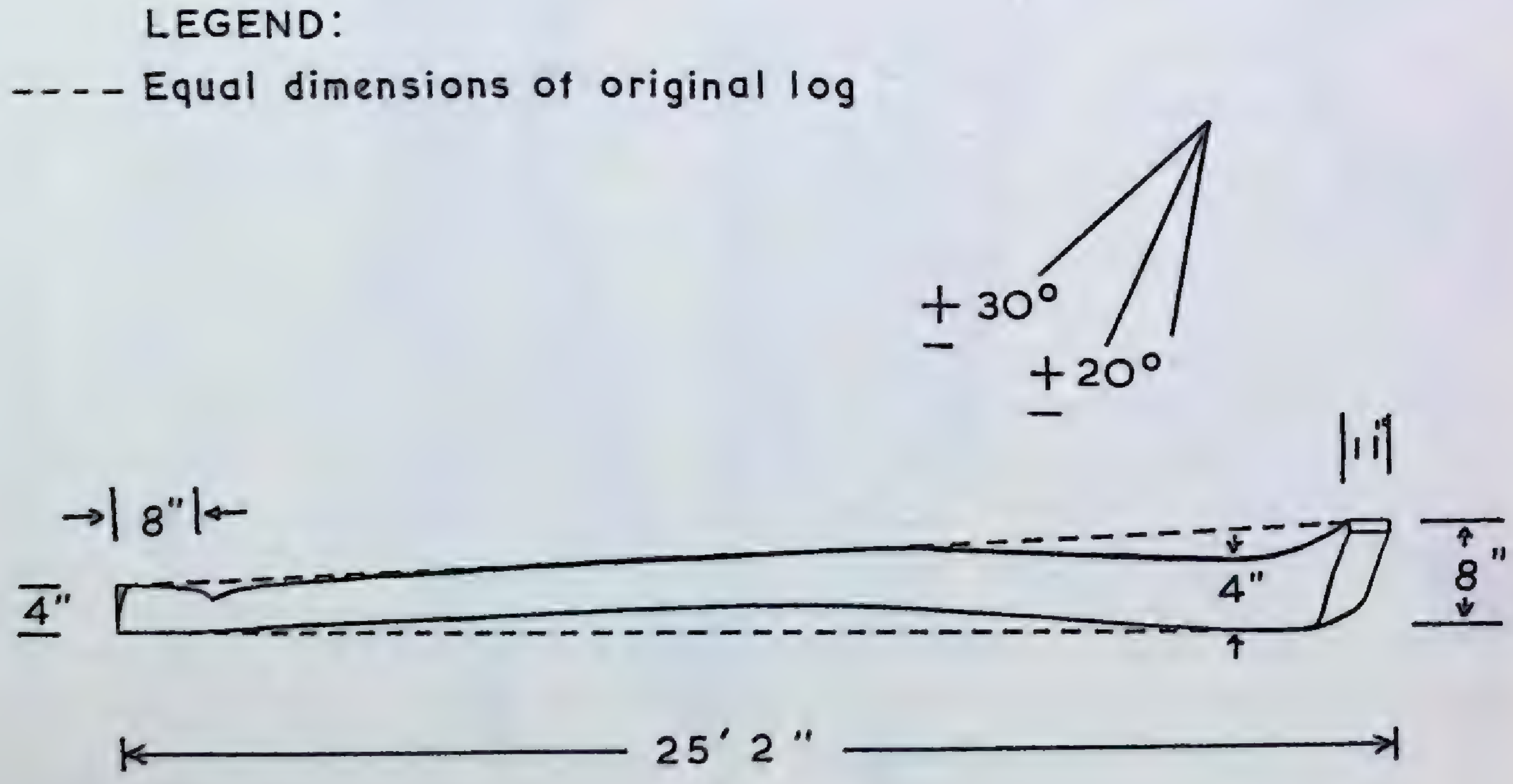

FIGURE 3—*Rough shaping of gunwale. Measurements are given in feet and inches.*

The roughing-out work on the gunwales completed, the worker now begins to plane and shape them to their finished dimensions. This work consists of shaping the stern post to the correct angle for tying the two pieces together at the stern, and of planing the gunwale over its entire length to attain the proper thickness for bending.

Each gunwale is now turned on its side, and the large end of the member is once more angled on the end and a notch cut in its top side. Once again the notch is smoothed to a gentle slope, this time for the length of the log. On the back side of the notch another cut is made, and this too is smoothed out and allowed to taper for the length of the log (*see* Plate 3). These cuts make it possible to butt the two gunwales together at the stern; the combined shaping forms a stern post when butted and tied (*see* Plate 4). When these operations have been carried out, it remains for the gunwales to be thinned sufficiently to allow them to be bent to receive the cross-members of the deck. Ideally, the thickness of the gunwale is about three-quarters of an inch, somewhat thinner at the top for lightness, somewhat thicker (i.e., about one full inch) at the bottom, where the ribbing will be inserted into the edge of the gunwale. The gunwale is first planed on its length with an adze to the desired thickness, then matched, secured front and rear with two large nails, and finally reduced to uniform width with a hand-axe. Final matching of the sides and edges is done with a jack plane to assure smoothness. It is now complete except for fitting and boring to accommodate the members which attach to it, in addition to some last-minute cutting to make it blend together well. The gunwales are then placed in fresh water (in this case a nearby lake) for three days to soak to make them pliable and easier to bend.

During this time the worker performs several tasks. He will cut and shape the deck cross-members, including the V-shaped cockpit forward support brace; cockpit rear support brace; deck support braces; and the deck stringers. Time permitting, the hull ribs and the cockpit(s) will also be made.

Preparation of Cross-Braces

The cockpit forward support brace is commonly made from the outer cortex of wood from a tree stump, if this is available, or, failing this, from any piece of wood which shows a suitable natural curve. This piece, like the others which go to make up the deck bracing, is hewn from a log with a long-handled axe, rough-formed with a hand-axe, and then finally shaped with a hunting knife or the more conventional pocket knife.[1] The rear support brace is likewise cut from a piece of naturally curved or warped wood, as is the cross-brace directly in front of the forward brace. Each of these is bowed somewhat in shape and the naturally-shaped piece allows the formation of the correct angle without loss of strength in the member. The cockpit forward support brace and the first deck cross-brace in front of it are elevated to raise the front end of the cockpit and to allow room for the paddler's legs as he kneels.[1] All deck cross-braces are cut to an approximate length of three feet, later to be reduced as required to fit the contour of the gunwales.

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[1] The whittling technique is somewhat different from the more conventional western technique and may conveniently be described here. The carver grasps the piece to be shaped with the left hand, palm up, holding the wood horizontally, the other end braced against the stomach, lap, or knee (whichever is most comfortable) on the right side. The carver then grasps the knife in the right hand, palm up, the blade to the inside (i.e., next to the heel of the hand). The fingers are curled around the handle of the knife; the thumb, allowed to stand free, is not used to grip the handle. With the knife handle thus cradled in the fingers, the knife is drawn toward the body over the top surface of the wood. If the piece of wood to be shaped is too long to be held with one hand and pressed against the body, the piece is commonly passed under the right armpit and allowed to stand free, or else it is butted up against something behind the carver to help steady it.

Preparation of Deck Stringers

The forward, rear, and medial deck stringers are commonly cut and formed while the gunwales are being soaked. They are rough-cut from logs which are relatively 'green' when possible, or soaked in water to make them pliable. Their dimensions are approximately three-quarters or one inch by two inches. Because the forward and medial stringers will eventually blend with the raised level of both the raised cockpit support brace, and the cross-brace directly in front of it, they must be shaped to form a gentle rise. To facilitate this, the stringers are thinned to approximately one-half-inch thickness at the point where the sharpest angle of rise is to occur; then the end which will rest against the forward cockpit support brace is laid against a high rock, and rocks are applied to the middle of the stringer to cause it to bow. The stringer will be left in this position for at least one day, in most cases two days (Plate 5). Their lengths vary from approximately two and one-half feet for the medial stringer to about ten feet for the forward member.

Manufacture of the Cockpit

The cockpit (*paa*) of the kayak consists of two pieces, the forward shield (*paa*) and the back panel (*ikosuk*),[2] both of which are hewn from a log with a hand-axe. The shield is first made in rough form, then planed to a size $6\frac{5}{8}$ inches by $2\frac{7}{8}$ inches by 6 feet 8 inches. The back panel is handled in the same manner, finished to a size $2\frac{1}{2}$ inches by $2\frac{7}{8}$ inches by 3 feet.

To form the forward shield the worker bores two holes at either end of the board about one inch from the end. The board is then strung with a string pulley as is shown in Figure 4. The worker then prepares a pan of boiling water. The shield board is placed across the pan, and a piece of towelling is wrapped around the board at the point where the bend is to be established—the midway point. The board is then soaked with hot water, using a common, handled saucepan or a metal cup as a dipper. When the worker judges that the board has been soaked enough to produce a bend, it is withdrawn from the pan and placed over two pieces of wood set apart at a distance of eight to ten inches. Another piece of wood is placed over the board, and pressure is applied on top of the latter with the foot (Plate 6). At the same time the ends of the board are drawn upward and in, to form the bend. Pressure is increased with the foot to hold the bend thus established, and the left hand holds one end of the now-bent board, while the right releases the slip knot in the pulley string, and the slack is taken up till the string is tight enough to

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[1] Common postures while paddling are either a kneeling or a sitting position, the legs outstretched in front of the body. The raised forward end of the cockpit makes added room to facilitate the former position. It is raised for two other purposes also. First the Eskimo will often take along a small supply box with him in which he will store shells, harpoon head, extra line, gloves or needs, as well as food and potential trade goods, should he be making a journey to the trading post. The elevation makes headroom for his supply box. The elevating of the cockpit is also necessary to facilitate paddling. Unlike his Kadluna counterpart, the Eskimo kayaker's work is a test of his endurance, not speed. His craft is therefore designed to relieve some of the labour of paddling. When working his craft, he rests the paddle on the top of the cockpit and moves it around the outer edge of the rim in stroking. If the front of the cockpit were not elevated, this motion would be impossible because the blades of the paddle would not clear the gunwales, and the paddle would be continually bumping the sides of the craft. The elevated cockpit also serves to shield the paddler from any wash which might come up over the forward deck in heavy weather.

[2] This term is not ordinarily employed in the Eskimo nomenclature, the whole cockpit commonly being referred to simply as the *paa*. This term was given to the writer by Manomi (E9-56) when he asked for the name of the back panel, but no one else used the term, even when questioned.

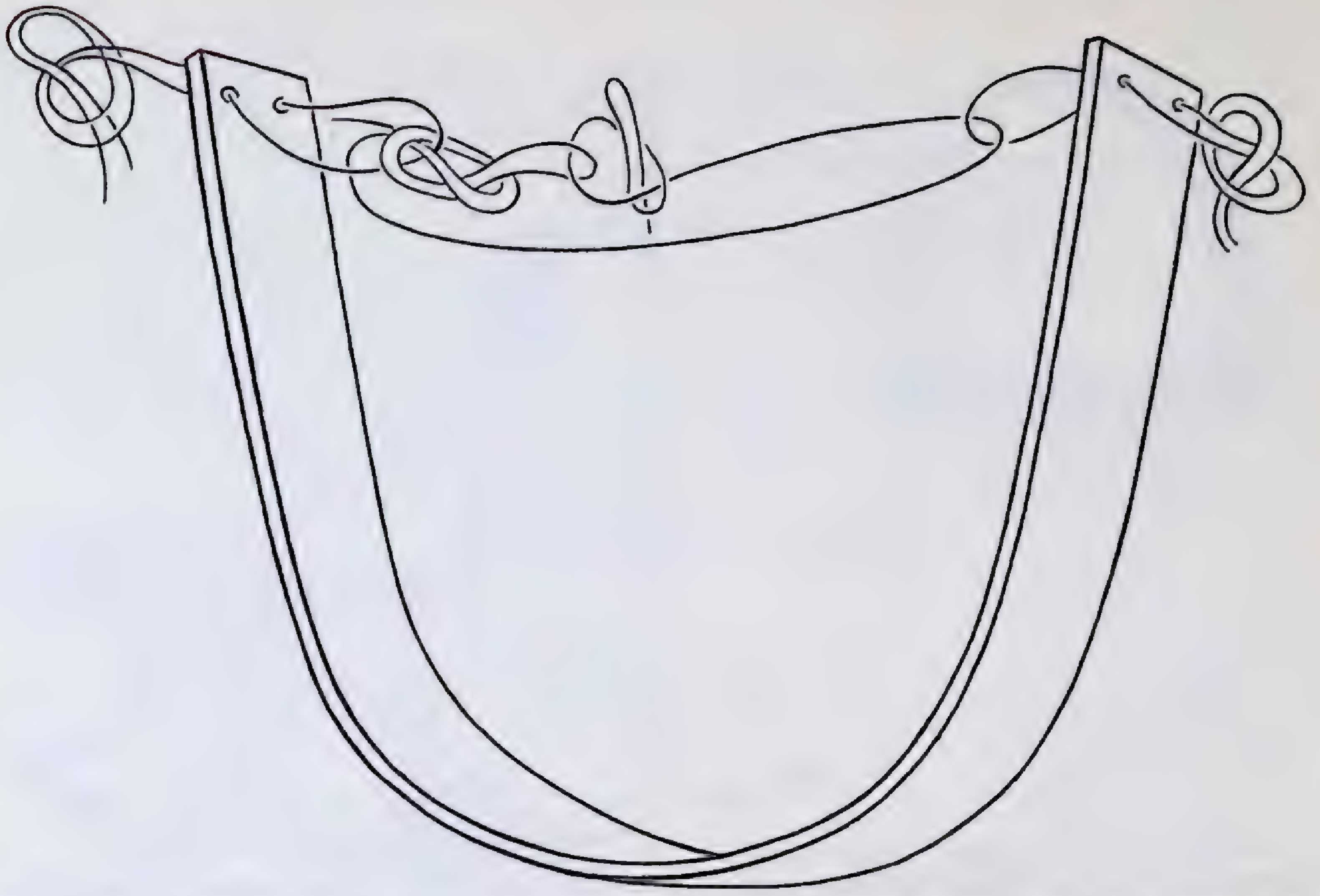

FIGURE 4—*Cockpit forward shield showing details of the pulley string attached during the forming process.*

maintain the bend in the board. The board is then returned to the basin of hot water and soaked again. More bending is then done, and the process is repeated until the proper angle of bend is established. The forward shield is then set aside, the pulley string still attached, while the back piece is finished.

It sometimes happens, during the forming of the cockpit shield, that the wood on the outer surface of the shield will split at the bend. If a split is anticipated because of the form or texture of the wood, it can sometimes be prevented by taking several turns of twine around the centre of the wood before the bend is established. If the splitting takes place during the forming process, a small piece of wood will be placed over the split, and bound down with twine (Plates 6, 7). After the shield is formed and attached to the back piece, the supporting piece will be removed, and the splinters of wood cut away with a knife till the outside surface of the shield is smooth once more.

The back piece is constructed as follows: Beginning with a prepared board roughly 2 inches by 4 inches by 3 feet, the worker shapes it to a slight curve, concave on the inside where the hips of the kayaker will rest while paddling, very slightly convex on the outside. The board is now $1\frac{3}{4}$ inches or so thick on the ends. At the centre, the thickness is somewhat less than an inch, say three-quarters of an inch. This shaping is done with a hunting knife or pocket knife. The back piece is then cut off to a length necessary to fit the bow-shaped shield, far enough back from its medial bend to make the cockpit long enough to permit the kayaker to enter easily (in this case approximately 36 inches from the front). The back piece is now approximately 23 inches in length. With a hack-saw (deemed the best tool for fine work of this type) notches are cut in either end of the back piece to a width of five-eighths of an inch and a depth of about $1\frac{3}{8}$ inches, so that the shield can be joined to the

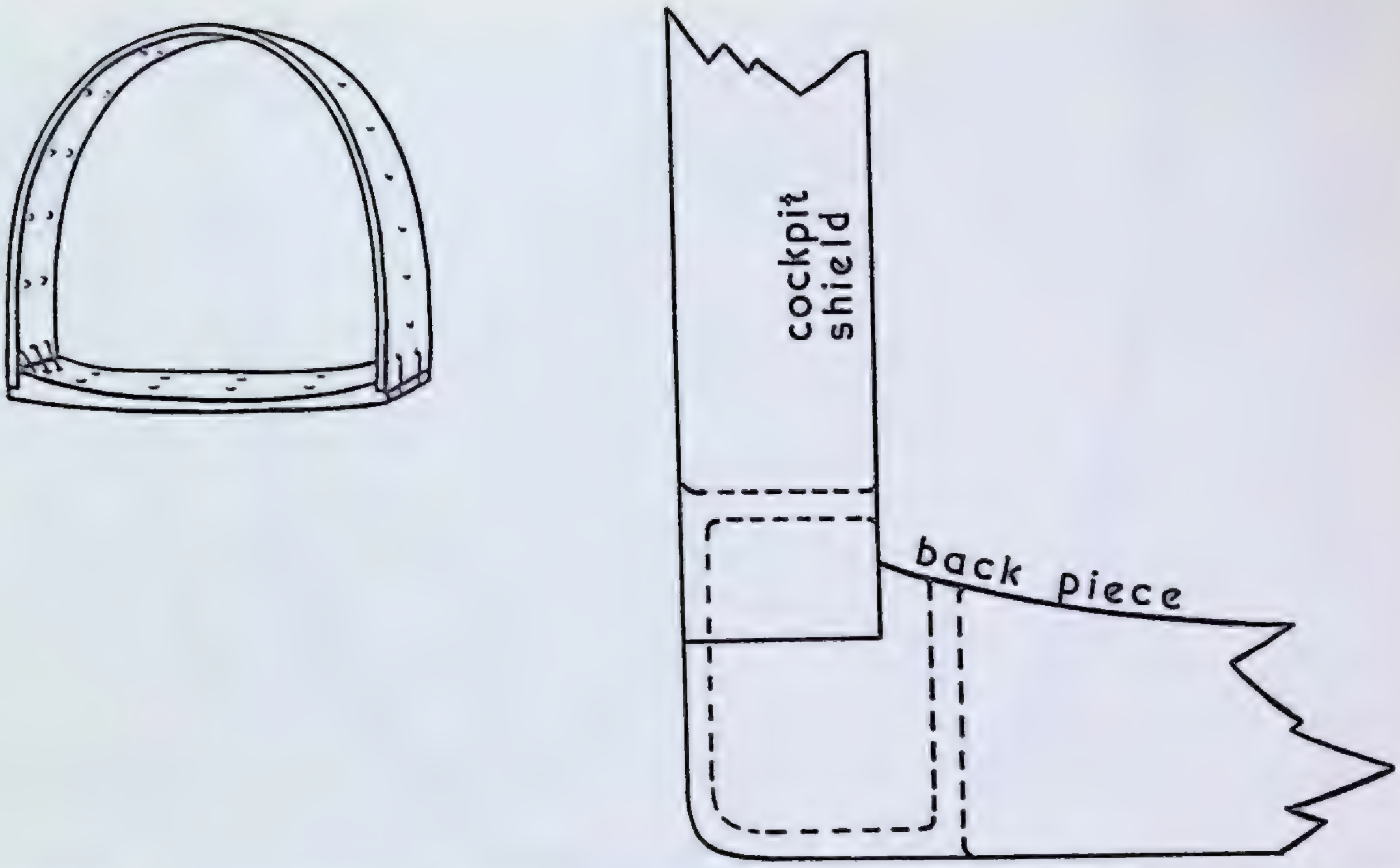

FIGURE 5—*Showing details of cockpit and diagram of holes bored to secure back panel to the forward shield of the cockpit.*

back piece. This is then sanded to make it smooth. Then, with the pulley string still holding the form of the board in a U-shaped position, the shield is cut down to its proper thickness and fitted to the back panel. Holding the two pieces together in their correct positions, the worker bores two holes at either end, angled so that the bit pierces both boards. The method of boring these holes is shown in Figure 5. Channels are now cut in the boards between the two sets of holes to accommodate the sealskin line that will join them.[1] They are then tied together by threading a one-eighth-inch line through all the holes. The joint is tied on the inside with a knot.[2]

The cockpit members have now been formed, and the two pieces have been secured to one another with lines of sealskin. It remains for the worker to bore holes through the cockpit to receive the sealskin lines which will lash the kayak's cover to the cockpit frame when the craft is finished. The task of boring is simple. The worker, boring from the outside, makes holes through the forward shield and back brace at approximately six-inch intervals in the centre of both pieces. Each hole is tilted at a 45-degree angle. Completing this circle of holes, the worker turns the cockpit over, and utilizing the same hole as before, he bores a second set of holes in the frame at about the opposite angle (again boring from the outside). The result is a set of V-shaped channels circling the cockpit, through which the lashing can be threaded without exposing it on the outside of the cockpit frame. The form is shown in Figure 6.

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[1] On the particular kayak under discussion here, one *paa* had two lashings at the joints; the other had three. Three are more desirable, according to the worker who made them (E9-56), but in the one case he feared that adding the third set might split the wood. Two lashings were satisfactory, he admitted. A brief check through the camp disclosed that most kayak cockpits in the camp had but two lashings to join their pieces.

[2] This joint can apparently be secured in a wide variety of ways. On one corner the worker simply tied the knot; on another he plugged the hole through which the line emerged and then tied the knot; on still another, he merely plugged the hole with a wooden peg and cut away the excess line.

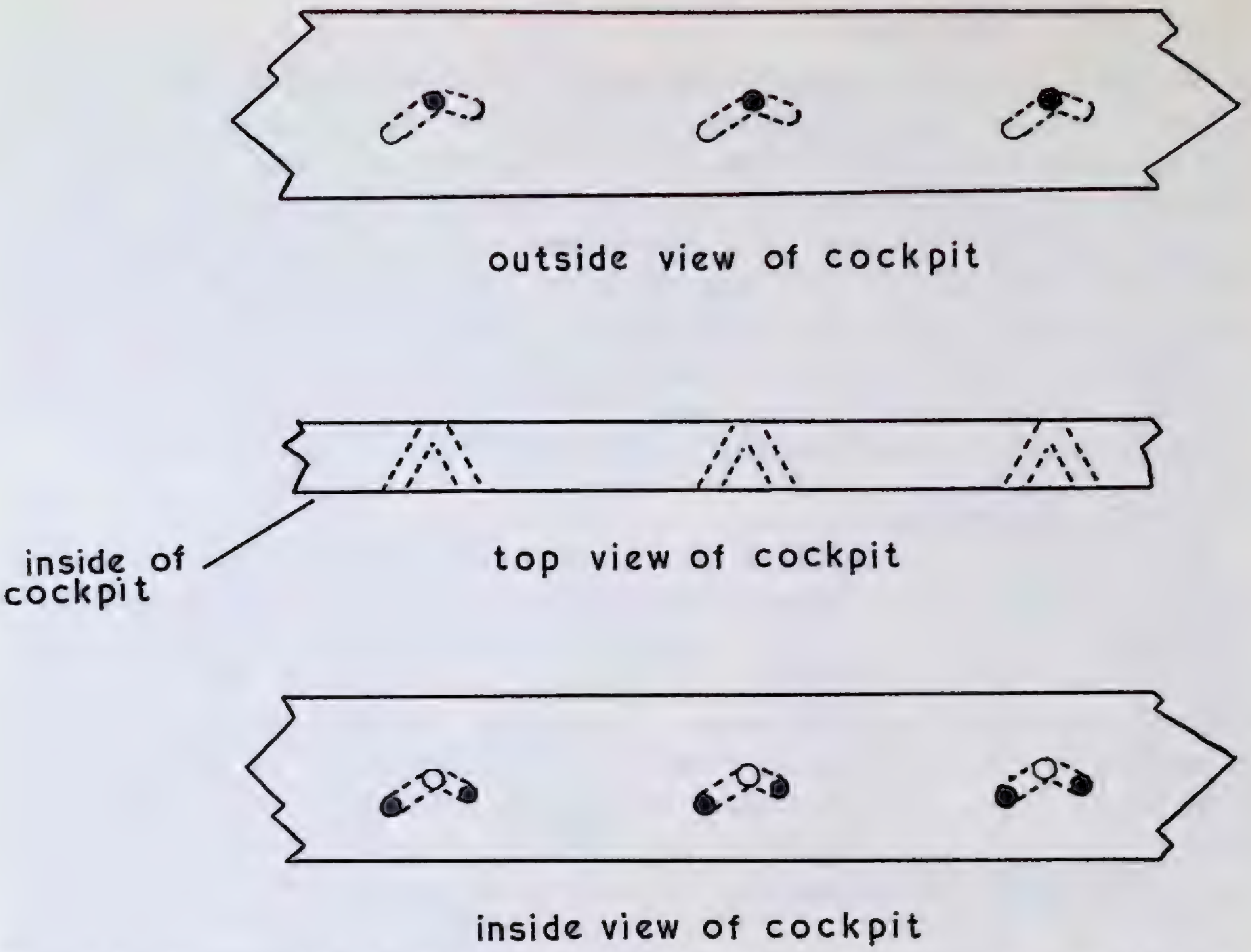

FIGURE 6—*Diagram of cockpit shield showing details of boring to accommodate cover lashings.*

Assembly of Gunwales and Deck Braces

When all the members of the deck frame, i.e., gunwales, deck braces, forward and rear cockpit support braces, and the cockpits have been finished, the top part of the craft is assembled. First the gunwales are taken from their soaking place, tied with temporary lashings fore and aft to hold them together, and spread to their approximate contours by means of temporary slats braced between them. The lashing on the stern post is now slackened, and the two halves are blended with a hunting knife to produce a close fit. Then the temporary lashings are retightened. All the deck braces are now laid out along the length of the craft and evenly spaced. Additional deck braces may be prepared at this time if the number is deemed too few.[1] The deck braces are then placed on the top of the craft, resting on the gunwales, and their position is marked on the inside of the gunwales with a pencil or knife. Taking a pocket or hunting knife, the worker cuts slots in the inside face of the gunwales about one inch below the top edge. This done, the cross-bracing is cut off to its proper length and inserted in the notches. The forward cockpit support braces are cut and then inserted. These two pieces are held in place by winding sealskin line around the outside of the gunwales and tightening it till pressure is exerted on the cross-braces.[2] The rear cockpit support braces and the two deck-braces between the two cockpit support structures are now cut and inserted, and the line holding the gunwales in position is extended down the length of the frame to put tension on these pieces to hold them in place. Next, the terminal deck brace is inserted in front of the stern post, and the five deck braces intermediate between the terminal deck brace and the posterior rear cockpit support brace are filled in to expand the gunwales broadly and form the rear deck of the craft (Plate 8). The anterior deck braces are now filled in, following the same procedure, i.e., the initial deck brace is inserted just to the rear of the bow, and the remaining deck braces are filled in behind it up to the final deck brace just in front of the anterior cockpit. With the deck bracing and gunwales now in position, the various components are tied together with sealskin lashings.

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[1] There is no measurement for the interval between these deck braces. It is simply a question of whether the worker judges that the interval is sufficient to give adjoining components proper support.

[2] The tight lashings around the craft also serve to press the bottom of the gunwales in toward the centre of the craft, giving a V-shaped contour to the sides. This tilt will later be stabilized by the insertion of the ribbing. At this time the stern posts may be blended again to accentuate the angle.

Processing the Lashings

Before giving the details of tying the gunwale and deck brace members, it will be convenient to digress for the purpose of describing the processing of the sealskin lines used to lash together the various members of the craft. Sealskin line for tying together the frame of a kayak measures about one-eighth inch in width and thickness. Two skins, together producing approximately three hundred and thirty feet of line, are required to assemble a two-hole kayak. Line is cut as follows: a scraped, cured skin is laid flat on the floor of the tent. A small hole about one and one-half inches in diameter is cut in the centre of the skin, and the worker, using a pocket knife, begins to cut a strip in an outward, circular, clockwise motion to a width of approximately one-quarter inch. This strip of line is then wet and worked with the hands to remove the 'curl'; it is then stretched. The line is dried in the open air by winding it around two vertically-erected poles (Plate 8). As the line is needed, a length is unwound from the pole frame, worked a little, and, if it is to be used for tying, cut longitudinally to approximately one-eighth inch in width.

Tying the Gunwales and Deck Braces

The procedure for securing the deck frames is threefold: tying the gunwales fore and aft; tying the deck braces; applying and tying the deck stringers. Joining the deck members begins with the tying of the gunwales fore and aft, using one of five basic varieties of tie patterns. For convenience, I shall refer to this pattern simply as type 'A.' Tie A is used to secure the two gunwales at those points where they run parallel or nearly parallel to each other in such a way that they will neither separate nor slip. The tie consists of securing the boards together in rigid fashion and boring two holes through them. Channels are then cut to connect the two holes on the outside of both pieces. These will recess the skin line into the surface of the boards on the outside. A length of fine line is now fed through the hole in the rear, forward on the outside of the matched gunwale, through the forward hole, and back to the starting side. The process is repeated. The line is re-threaded through the rear hole and pulled through until the line is tight. Before it is fed through the forward hole, however, the rear hole is plugged with a carved wooden plug, driven into the hole and cut off. This prevents the line from slipping back through the rear hole and ties down the trailing end of the line. The line continues up the channel, as before, to the forward hole and through it again to the starting side. When it emerges, this end too is pulled tight, and the forward hole is plugged. Both ends of the line are then cut off at

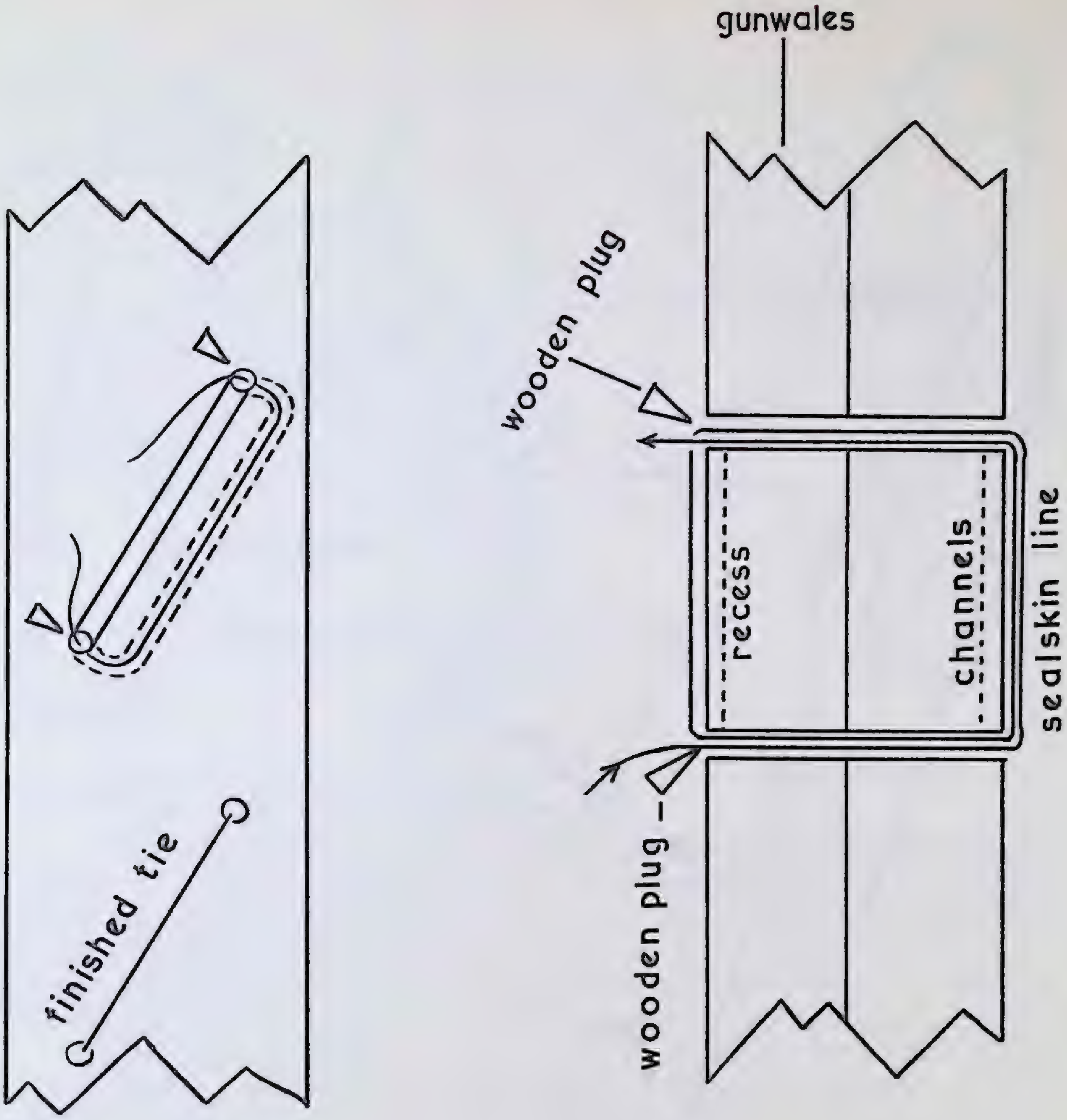

diagram from the side

diagram from top of gunwales

FIGURE 7—*Diagram showing horizontal and vertical elevations of gunwale and details of Tie A. Side view shows channels cut to recess lashings into the gunwales.*

the hole[1] (*see* Figure 7). Using this procedure, the gunwales are tied twice at the bow and once in the stern, through the matched stern posts.

The next step is to secure the deck braces to the gunwales. The ties used for this purpose may be designated as 'B' (*see* Figure 8). Its purpose seems to be to secure the deck braces to the gunwales in such a way as to allow the two parts to articulate like a ball and socket, and thus lend flexibility to the craft. The method of tying is as follows: two holes are bored in each gunwale,

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[1] A variant of this tie is to put a simple knot in the trailing end of the line and pull it tight into the hole. When the running end of the line has passed through the holes as described, the last hole through which it passes is plugged to keep the line tight, and attempts are made to knot this end also as close to the hole as possible.

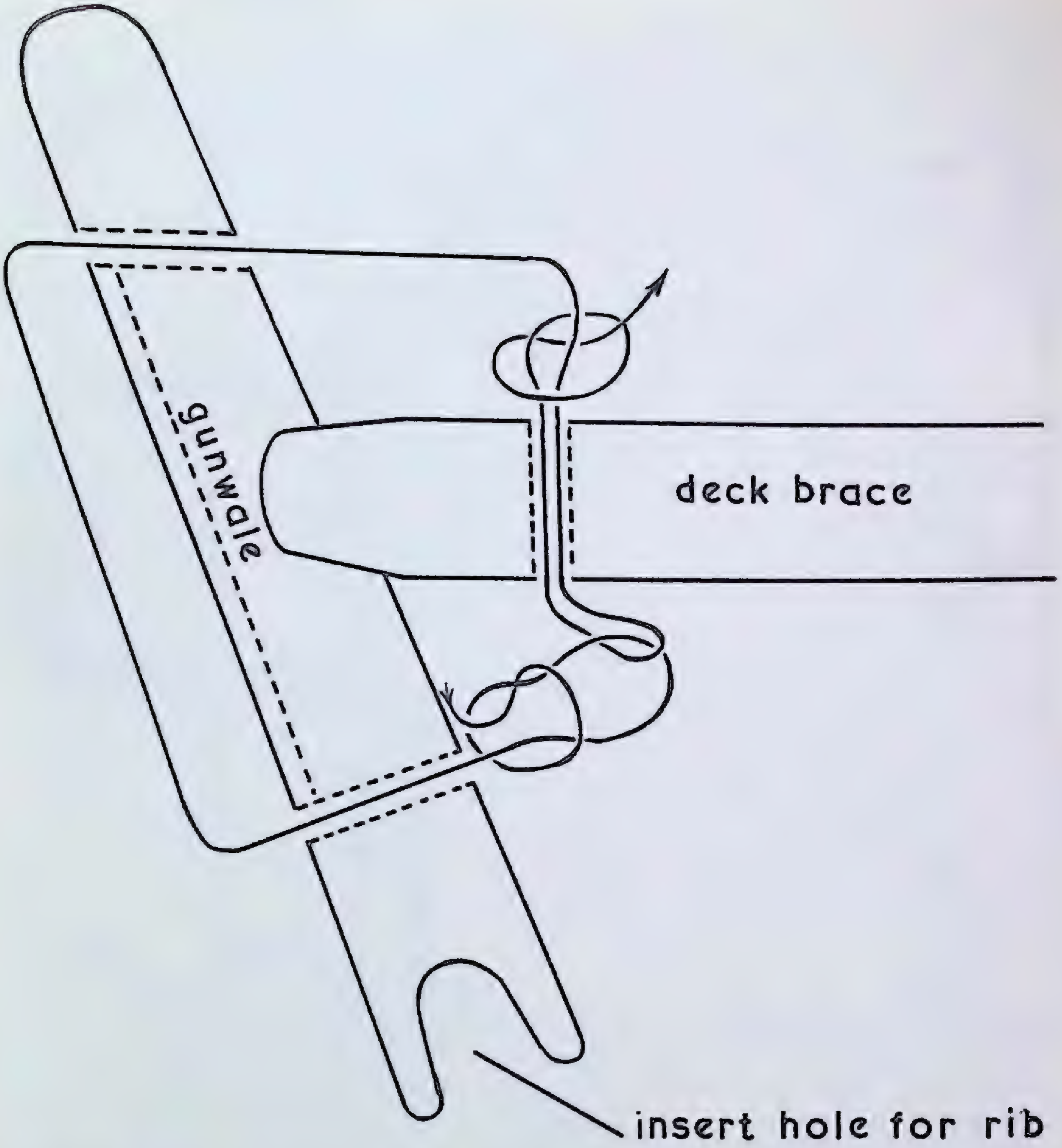

Figure 8—*Diagram showing transverse section of gunwale and deck brace with details of type B tie used in securing deck braces to gunwales.*

one above and one below the notch cut on the inside of the gunwale face to accommodate the inserted deck brace. A channel is cut between these two holes on the outside to recess the line. A hole is also bored vertically in the deck brace to take the lashing which will pass through all three holes. Next, a length of line is secured, and either a slip knot or loop knot is made in one end. The free end is then fed through the lower hole in the gunwale passing from the inside to the outside. The line is then fed into the top hole and passed back to the inside of the gunwale. Next it is fed through the vertical hole in the deck brace from the top, through the slip knot on the other end of the line just below the brace, and back through the hole in the deck brace, this time from bottom to top. Now the whole lashing is pulled tight, and efforts are made to pull the loop of the slip knot up into the hole in the deck brace;

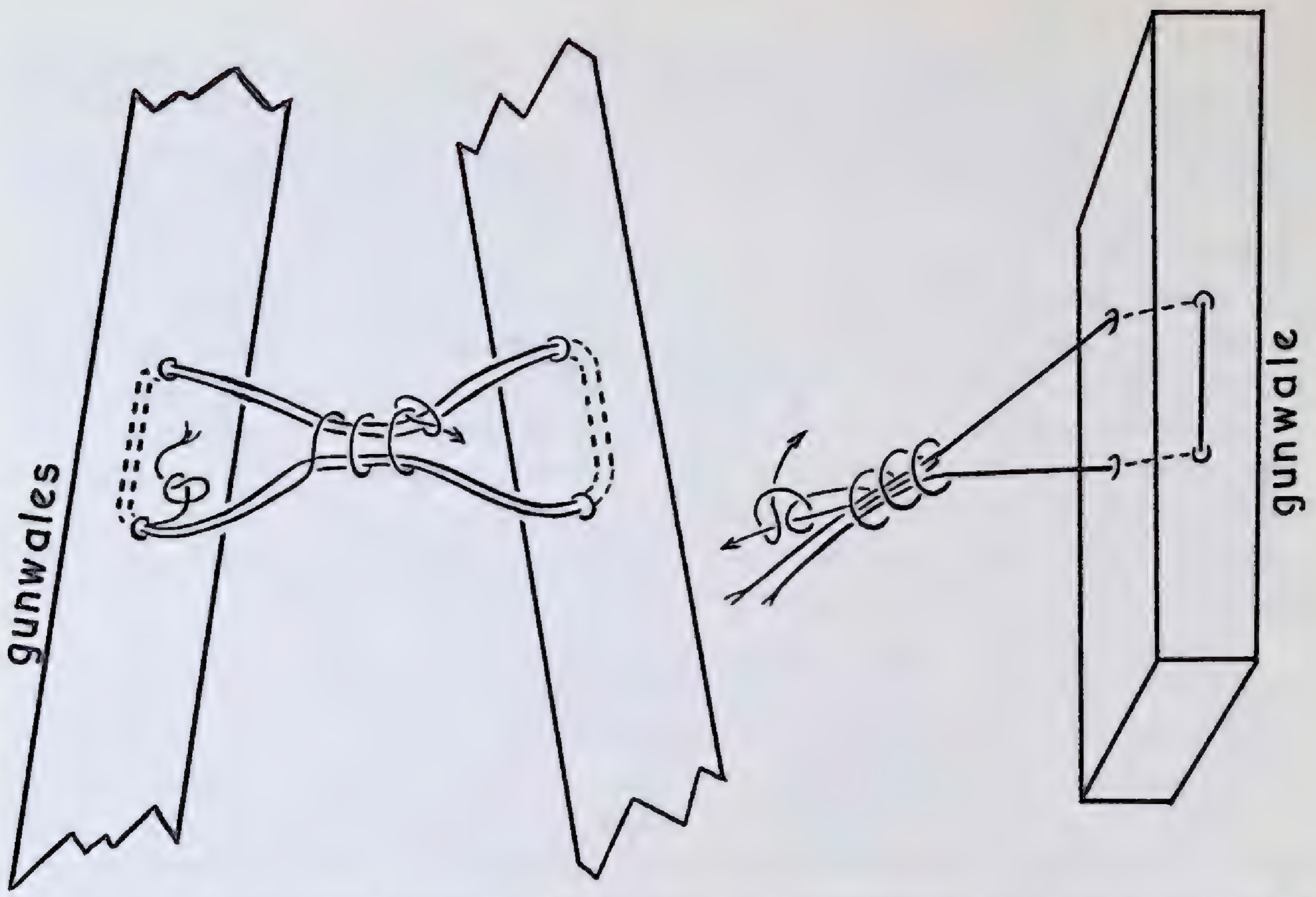

FIGURE 9—*Lateral view of gunwales showing details of type C tie used to secure gunwales fore and aft and to join other members to the gunwales.*

more pressure is applied to make the hitch as tight as possible. Finally, the free end of the line is tied to the middle of the line with a single or overhand knot at the point where it goes into the hole in the top of the deck brace. The line is then cut off, and the tie is complete. Two type 'B' ties are applied to both sides of the forward and rear cockpit support braces. A single tie of the 'B' type is applied to either end of all remaining deck braces (*see* Plate 9).

While the deck braces are being secured, a second set of ties will be applied fore and aft to secure the gunwales. These may be referred to as type 'C' (*nucuhotik*) ties, as shown in Figure 9. This type of tie is used in many places on the craft frame (*see* below), and its advantage over other forms of lashing is not clear. It seems to be used to bind together, in a loose way, parts spaced some distance from one another for the purpose of maintaining the interval which separates them and at the same time makes some allowance for movement.[1] Tie 'C' is applied directly forward of the stern post, where the two gunwales separate. Four holes are drilled in the wood, two on each gunwale. A line with a single knot at its end is then threaded back and across through the holes and pulled tight, forming two parallel lines of lashing. As the lashing emerges for the last time to the inside of the gunwale, the worker grips the free end in his teeth and pulls the line tight. The remaining line is then wound around the parallel lines of lashing several times and tightened till the two lines are together. The purpose of this manoeuvre is, of course, to increase tension on the lines. The line is tied in an overhand knot followed by a series of half hitches placed over the looped strands to ensure that it will not separate.[2] The excess line is then cut away

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[1] The tie is not unlike that used to sew buttons on a coat.

[2] There is some variety exhibited in securing the running end of the line, cf. Plates 8 and 21.

(Plate 4). Tying the front of the gunwales follows the same procedure. The type 'A' tie is applied in the extreme end of the bow where the two gunwales are nearly parallel. About a foot behind this tie the type 'C' tie is applied. At this point the two gunwales are nearly six inches apart (Plate 10).

Applying Deck Stringers

When the deck bracing is tied in place, the three deck stringers are put in place and lashed down. The rear stringer is simply laid out and cut to the proper length. At the rear it will almost touch the inside face of the gunwales where they meet to form the stern post; at the front end it will rest on the rear cockpit support brace but will not cover it. Instead, it will be cut off about one inch short of the leading edge of the support brace so that the cockpit will be seated on the brace, butting up against the stringer. This prevents either vertical or backward movement of the cockpit.

The method of tying is to apply lashings at the edge of the board to secure it to the deck braces. This technique may be called type 'D' lashings (*see* Figure 10).[1] Its function is to secure members which run at right angles to one another for the purpose of holding them firmly together, without at the same time immobilizing them. Where the deck stringer passes over a deck brace, a hole is drilled in the stringer at about a 45-degree angle so that the lashing which runs through the stringer will be approximately the same length as the width of the member over which the stringer passes. Where the hole penetrates the top of the stringer, a channel is cut to the edge of the board, so that the lashing, as it passes over the edge of the board from below, will be recessed into the surface and not exposed above the top of the stringer. The running end of the line is then passed through the hole in the stringer from the top where it emerges from the bottom of the stringer on the other side of the deck brace. Then the two free ends of the line are passed around the deck brace for a few turns, one moving clockwise, the other counterclockwise, and tied with a square knot. The remaining line is cut off. The stringers are tied in this manner to every fourth deck brace on alternating sides of the stringer. Where the deck stringers are mortised into the slightly bowed deck, directly in front of the forward cockpit support brace, a double lashing is applied, i.e., type 'D' lashing is used on both sides of the stringer (Plates 9, 12). The rear deck stringer is lashed to the last deck brace before the stern post aft, and again about midway along its length with a type 'D' tie, alternating sides.

The medial deck stringer is applied next. It stretches between the midway point in the rear cockpit support brace of the first cockpit and the top of the forward support brace of the second cockpit. In front, it is fitted precisely as is the rear deck stringer, making a seat for the cockpit. In the rear it is mortised into the top of the forward cockpit support brace and cut off about an inch from the edge of that member. It too, then, forms a seat for the forward shield of the cockpit which will butt against the stringer and rest on the support brace, arresting (Plate 9) forward movement of the cockpit. The medial stringer is tied only to one of the medial deck cross-

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[1] Later I shall describe the employment of this same lashing on the bottom stringers where it runs continuously throughout the length of the craft. I shall call this form a type 'DD' lashing, to distinguish it from the single lashing described here, and at the same time emphasize its similar form and purpose (*see* Figure 11).

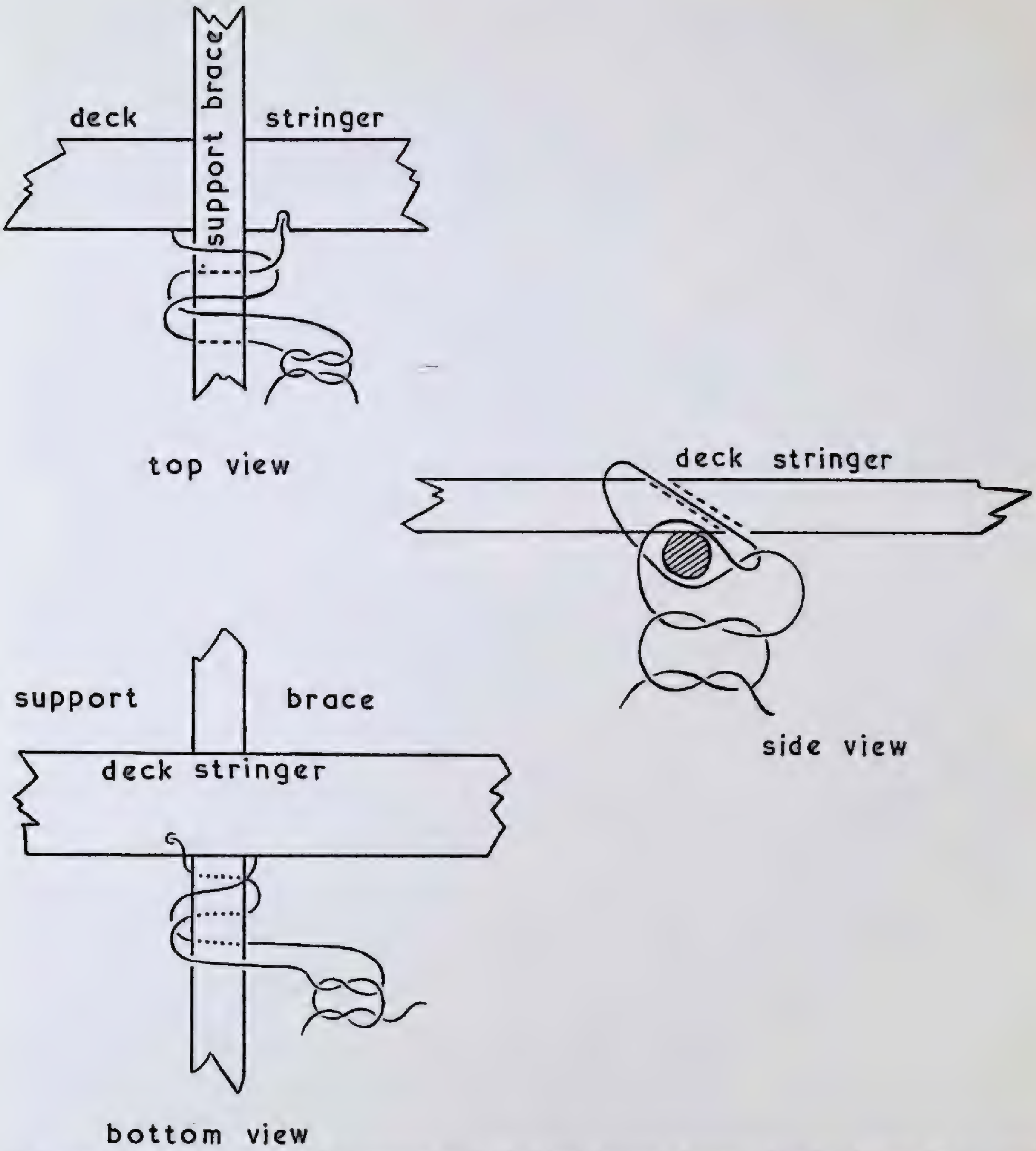

FIGURE 10—*Three views of stringers and ribs/deck braces showing details of type D tie used to secure deck stringers to deck braces and lateral stringers to hull ribs.*

braces, this time utilizing two single 'D' type ties, one on either edge of the board.

The forward deck stringer is positioned precisely, as are the medial and rear stringers. In front, it extends beyond the first deck brace but does not touch the gunwales. In the rear it is mortised into the top of the forward cockpit support brace. It is tied to the first and fifth deck cross-braces using a 'D' tie, and to the eighth deck cross-brace using two 'D' ties. When all the deck stringers have been installed, they are planed to give them a smooth contour and to make them blend with the cockpit shields.

The top of the *pacalik* is now completely assembled. The next step in the construction of the frame is that of making and applying the ribbing which forms the bottom of the craft.

The top of the frame is first turned over so that the bottoms of the gunwales are up. The worker now takes a small scrap of wood and cuts it to about eight inches in length. He uses this to measure off the distance between the ribs, and it marks the bottoms of the gunwales appropriately.[1] In the gunwales he then bores holes angled slightly toward their outside edges so that the ribs, themselves approaching the gunwales at a slight angle, will fit precisely.

Manufacture of the Hull Ribs

Making the hull ribs is a relatively simple process. The worker takes a split or quartered log about six feet in length and splits off 1 x 1's, using a hand-axe. These are smoothed down with a hand-axe, and tapered to three-quarters of an inch, rounded on the ends, with a hunting or pocket knife. They are then tested by bowing slightly in the hands to ascertain if they are sound and have no obvious splits in them. They are then ready to be inserted into the holes bored in the bottoms of the gunwales (Plate 13).

Forming and Fitting the Hull Ribs

To form the ribs, a fireplace is built of stones and a large pot is filled with water and set over the fire. Commonly, a bridge will be built across the top of the pot by inserting a small piece of wood inside the pot at the upper rim and nailing it in place through the lip of the pot on both sides. This bridge narrows the open space in the pot and prevents the ribs from falling out when they are placed in the boiling water. The ribs are now placed in the pot and allowed to soften in the boiling water for about fifteen minutes. They are periodically tested, and when found soft enough, a stick is withdrawn from the pot and held with one hand at either end. The stick is then placed in the mouth over the lower bicuspids, and pressure is applied with both hands, forcing the ends of the stick down. As pressure increases, the worker bites the rib to crimp it (Plates 14, 15). At this time, while maintaining the pressure on the bend with the hands, the worker moves the stick in his mouth to the right and bites again and again until five or six crimps have been made in the rib and a smoothly rounded bend has been established. As one side of the rib is bent, the rib is replaced in its hole in the gunwale. The process is now repeated—soaking, bending, re-inserting in the gunwale—until all the ribs have been bent twice, and their characteristic U-shape has been attained. This completed, a line is tied fore and aft, running over the ribs and acting as a level. The ribs are then cut off to their proper dimensions and levelled to a smooth, flat surface (Plate 12).

Producing and Fitting of Stringers

The hull ribs are not tied directly to the gunwale. Instead, the bottom stringers are applied over the ribs, lashed first to the ribs, and then to the gunwales. The bottom stringers consist of several long pieces of wood in various shapes, which run along the bottom of the craft longitudinally, providing stability, rigidity, and weight. In order of application they are the

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[1] In this particular case the worker borrowed the writer's flexible tape-measure to establish the interval. He did not, however, use it in the customary way—by laying it along the gunwale and measuring off every eight inches—but instead, laboriously moved along the measure with his thumb on the eight-inch mark and moved down the gunwale. The interval of eight inches he determined by measuring the distance between ribs on a nearby kayak frame, in this case his own.

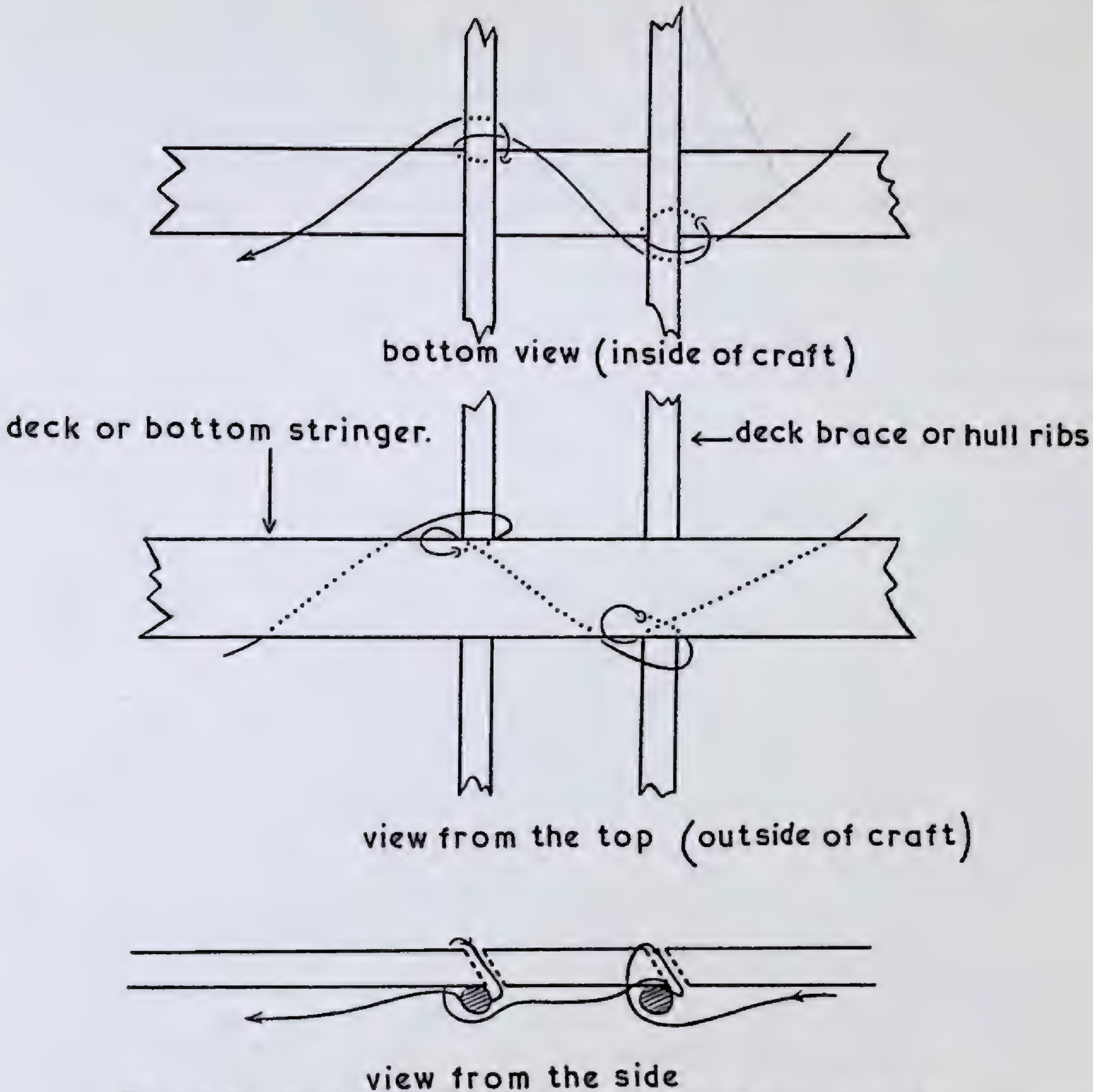
bottom view (inside of craft)
deck or bottom stringer.
deck brace or hull ribs
view from the top (outside of craft)
view from the side

FIGURE 11—*Details of tie DD used to lash bottom stringer, etc. to ribs.*

single bottom stringer, two intermediate stringers, two lateral stringers, and two side stringers. Together they form an almost solid bottom to the craft (Plate 16).

The first to be applied is the bottom stringer, which consists of a single long board approximately one by four inches which narrows in front and rear to a width of about two inches.[1] This stringer is placed on top of the ribbing and temporarily lashed down (Plate 17) to hold the hull ribs tight against the gunwale. Thus secured, holes are bored in the wood where it adjoins the ribs; channels are cut to the edge of the board; and the stringer is tied to the ribs in the manner shown in Figure 11, which may be designated as tie 'DD' or a 'continuous D' pattern. The 'continuous D' pattern is exactly the same as the single 'D' pattern, except that in the latter, each lashing ties to the rib or deck brace it adjoins, but in the 'continuous D' pattern, the line moves on to the next intersection of a stringer and rib, where the pattern is repeated (Plate 18). When the stringer is secured to the ribbing, it is laced to the bottom of the stern post utilizing two type 'A' ties and is mortised into the gunwales at the bow (Figure 2) and secured with an 'A' tie. It is also tied to the gunwales between the first and second ribs utilizing a type 'C' tie (Plate 19).

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[1] A one-piece bottom stringer is the preferred form, although it cannot always be obtained. The length of a one-hole kayak often runs to more than sixteen feet, and it would be very time-consuming to attempt to cut a continuous one- by four-inch board, seventeen or so feet long, from a log, using only an axe and adze. This is actually done in the rare instances when a slender pole (four inches in diameter) can be obtained. The *pacalik* being constructed was over twenty-four feet in length, and no one could remember having seen a two-hole craft with a single piece bottom stringer. Instead, the bottom stringer is made in two pieces, angled and applied where they meet, using a simple knot. Where the continuous 'D' tie comes over the splice, the line is fed through the holes bored for the purpose, tied in a simple knot, and carried on for the next 'D' type tie (Plate 16).

The lateral stringers are next applied. They vary from the bottom stringer in three significant ways. First, they fit on the hull ribs where the latter bend; they must be cup-shaped on the inside to fit the bend. Secondly, they are shorter than the bottom stringer and extend only from the third bottom rib to the thirtieth rib in the rear of the craft. Thus they are secured forward and aft in a different manner. Thirdly, they are curvi-linear rather than straight (Plate 20) since they follow the outside edge of the craft. The lateral stringer is formed in the same manner as the bottom stringer, except that in roughing it out, it is left somewhat broader (say, 6 inches) and somewhat thicker (say, 2½ inches). It is then curved slightly to fit the contour of the craft and, finally, hollowed out with an adze to a gentle U-shape. Tying to the ribs is by means of type 'DD' ties, and the method is identical to that for the bottom stringer. Front and back ties are like the secondary ties for the bottom stringer, except that four sets are applied at each end of the craft. The lateral stringer is first tied to the gunwale, then to the bottom stringer. The lateral stringers are also tied directly to the gunwale near the middle of the craft with a type 'C' tie (Plates 19, 21, 22).

When bottom and lateral stringers are all in place and secured, the side and intermediate stringers are placed on the craft (Plate 23). All four of these pieces are more or less straight 1 x 2's which fill in where the principal members leave gaps.[1] These stringers are shorter and are tied to every sixth rib with a 'D' pattern tie (as opposed to every rib for both bottom and lateral stringers). They are not secured with the type 'C' tie, characteristic of the main members. The bottom of the craft is now almost completely enclosed, and the ribbing is well protected from any breakage (Plate 16).

When the seven bottom stringers have been put in place, the work on the frame is complete. The worker now planes with a six-inch jackplane to make them lighter and to blend them. This done, the entire frame is oiled with seal oil to make it slippery so that the cover can be more easily applied.

The Pacalik Cover

Although there are no absolute time factors involved in the construction of the kayak frame, save that the wood should be gathered before the ice is too weak to seek it out and transport it, the same does not apply to the cover. The cover skins must be allowed approximately ten days to 'ripen' so that they can be easily stretched over the frame. Too long a period will cause them to rot, and too short a period will make them too tough to stretch, with the result that the finished cover will be loose on the craft. Furthermore, as soon as the skins are cut and sewn together, they must be applied to the craft without delay. They cannot ordinarily be replaced in the skin poke after they are sewn, because of their bulk and the manner in which they are dressed and also for the reason that they dry and shrink very quickly when left exposed to air. Generally, then, the work on the kayak cover will be timed in such a way as to be ready for covering a kayak the day the frame is finished.

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[1] The writer has seen one kayak where the bottom stringer was approximately 1 by 5 inches, and where the two intermediate stringers were omitted.

Everyone in the community knows when this will be, of course. Sewing a kayak cover is a community project for the women of the camp, and since it generally takes the better part of a day to complete, the women must do some planning ahead so as to leave their sewing day relatively free from other tasks. Also, since there may be five or six kayaks to be covered in a single season in any camp, there must be some coordination among households to decide whose kayak will be covered on a certain day.[1]

Preparation of the Skin

After the skins have been scraped, they are set aside to ripen for some days before the making of the cover actually begins. The last steps in the preparation of the skins begin on the day before the frame is to be covered. Late in the afternoon of that day the wife of the kayak owner will remove the skins, one by one, from the seal-skin poke. Each skin is placed over the scraping boards and scraped again on both sides. The primary purpose of this activity is to remove any surface fat which might have been left in the skins after the preliminary work, and also to remove oil accumulated in the process of curing. Commonly, all those who will help with the sewing on the following day participate in this task, providing the woman in charge with some idea of how much help she can count on the following day. The skins are then placed in an old kayak cover and taken into the tent, where the top of one skin is matched to the tail of the next. They are then caught at the corners in pairs with a couple of stitches, using needle and button thread, and hoisted on a line to the ridge pole of the tent (Plate 24). The skins are then trimmed laterally from above the shoulder to the head as shown in Figure 12. This cut edge will later be sewn to the bottom of the adjoining skin at 'A.' The skins, now matched in pairs, are returned to the wrapping (an old, i.e., last year's kayak cover),[2] bound, and laid aside for the night.

The morning following the matching and trimming of the skins, the women will be summoned to the tent of the kayak builder to prepare and sew them.[3] When they arrive, the cover skins will be brought out and set in the 'dirty-work' corner of the tent. The women will all kneel around the pile and begin to work. Work at this point consists of preparing the edges of

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[1] Of the five kayaks owned by members of the camp, four were re-covered during the spring of 1963 boating season. All four were finished within a period of ten days.

[2] Kayak covers are removed in mid- or late April to be used in making shoes for the dogs (shoes are provided to keep their feet from being badly cut on the thawing sea-ice). In late spring, when it is not unusual for the sea-ice to be covered with twelve to eighteen inches of water on a warm day, the cover will be placed on top of the sled to keep the riders dry. If seals are taken on the trip, the cover will be used to wrap them to keep them out of direct sunlight, lest they rot.

[3] It is the hostess's husband who commonly awakens the female workers by arriving before daybreak—4:00 A.M. or a little later (carrying a kettle of tea which he pours for his wife and anyone else awake at the same time. She will arise then and go to work, leaving the rest of the family to sleep). Sewing kayak covers is the equivalent of the sewing bee of the early 1900's. The women talk and laugh and have great fun while working. It is the custom to feed the women on the day they help, and such tidbits as dried seal, square flipper, and whale meat will be available, as well as dried seal intestine, pilot biscuits, and the ubiquitous tea—brewed strong and hot—which the women will consume in large quantities. The man of the house will also furnish a package of cigarettes, if these are available, or a half-pack of fine-cut tobacco, to each woman.

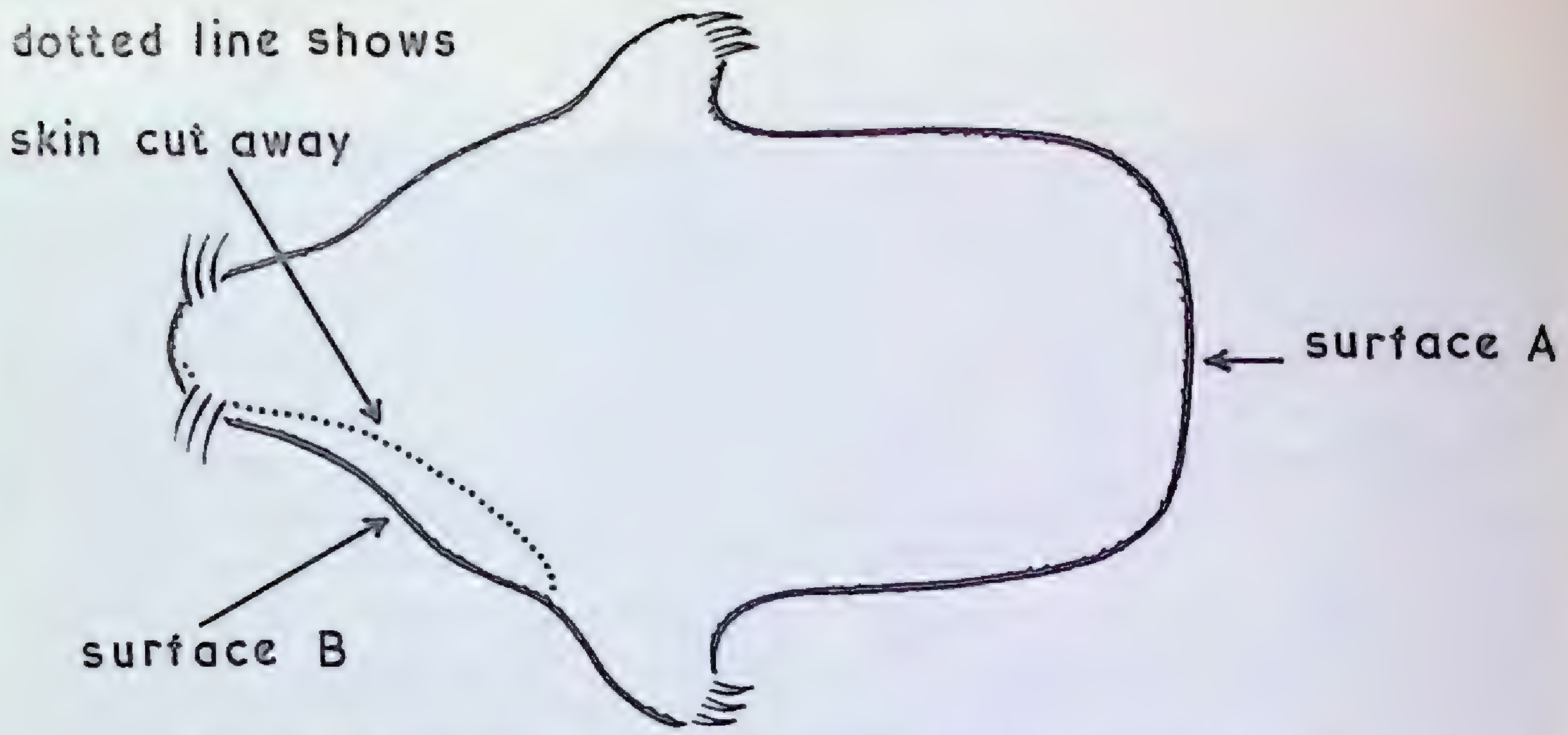

FIGURE 12—*Diagram of skin cut for sewing of bottom of kayak cover.*

the skins by trimming and cutting, then chewing to make them pliable, and thinning them so as to make smooth seams when they are lapped (Plate 25).

When work on the skins has been completed, the tent is prepared for sewing. The stove (ordinarily situated in the middle of the tent below the ridge pole) is removed, and a stick or kayak paddle is lashed to the two vertical supports which brace the ridge pole. From this pole, strings are hung with wooden pins tied to them. The matched skins are then hung on the wooden pegs (Plate 26). The women take their places each at a peg (which is to become one of the seams of the cover), and they begin to sew (Plate 27). As they sew from one side of the seam to the other, the skin is moved up on the pegs leaving only the unsewn portion suspended. This makes the sewing easier. The equipment required consists principally of a needle (actually each woman brings her own favourite needle, but the hostess is bound to furnish needles, button thread, and sinew thread). Also each woman will bring her own *ulu*, a small piece of seal blubber, and perhaps a small tin can containing seal oil. The *ulu* is used to do any last minute trimming that is necessary, and the blubber she will use to lubricate the sinew and button thread in sewing through the skin. The can of oil she will either drink or use as a dip to soften her dried seal meat and make it more palatable.

Sewing techniques are relatively simple. The women will first sew the outsides of the two adjoining skins together, sewing the edge of one skin to the top of the adjoining skin, leaving an approximate three-quarter-inch overlap (Figure 13).

This sewing *(iluliyuk)* is done with the sinew thread and is calculated to produce a waterproof seam. The stitch is called *silalik* ('takes the weather'). When all seams have been finished on the outside in this manner, the cover will be turned over and the inside edge of the overlapping skin will be whip-stitched *(usuttiyuk)* to the adjoining skin (Figure 13).

When the sewing is complete, the skin is checked for holes (from harpoons and bullets). A hole, when found, is cut out to about three-quarters of an inch in diameter, and a round patch about two inches is cut to fit it. It is then chewed and stitched to the skin in exactly the same manner as for a seam binding (Plate 28). The bottom of the cover is now complete. It consists of nine skins[1] sewn together in the manner shown in Figure 14.

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[1] Only seven skins are required for the bottom of a common one-hole kayak.

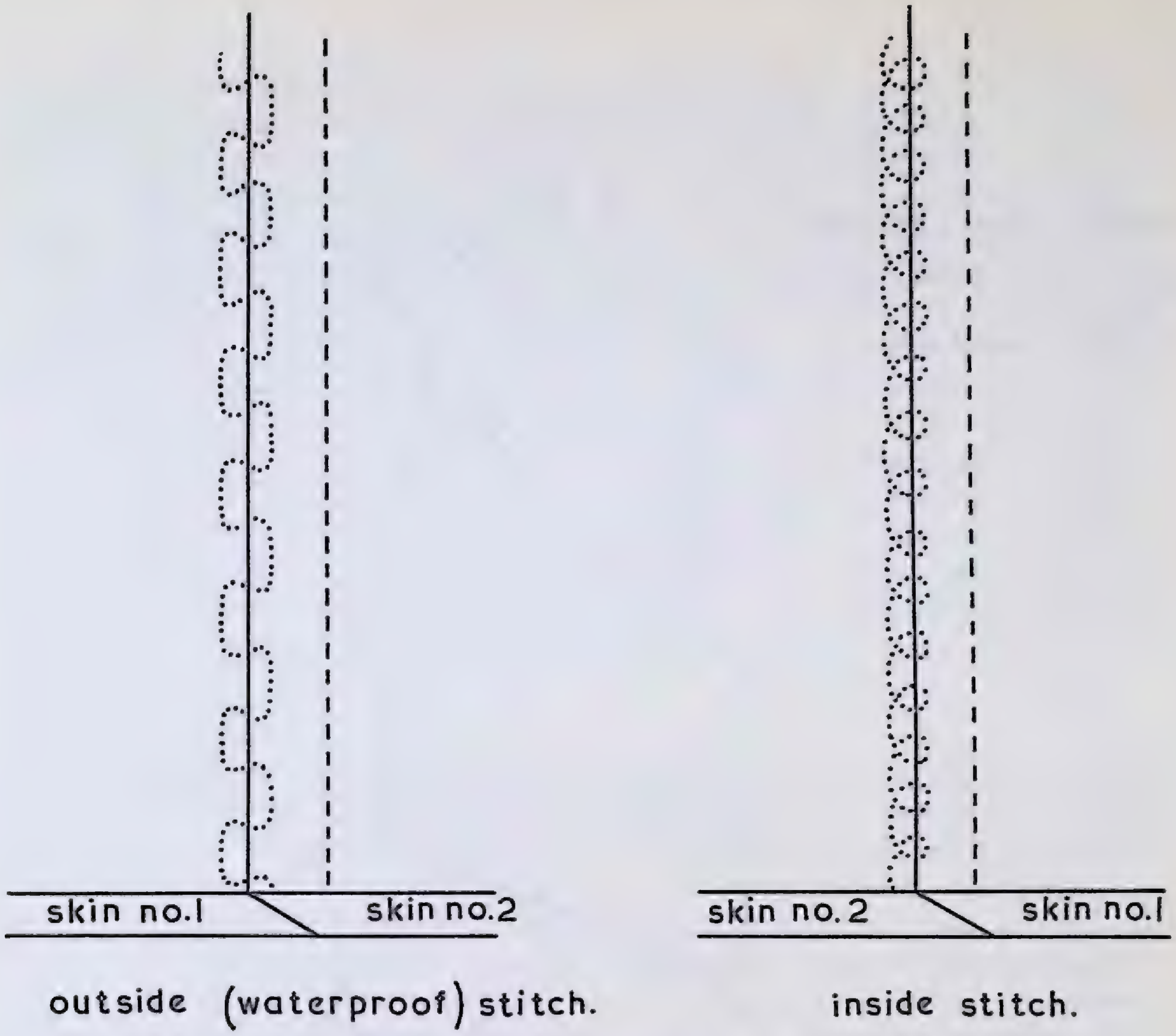

FIGURE 13—*Showing stitches used to close seams on kayak cover.*

Covering the Frame

With the completion of the cover bottom, a worker will measure the nose of the kayak (both length and girth) so that a boot can be made at the prow end of the bottom skin (Plate 29). Returning to the cover she will measure off and sew a nose boot in the end of the skin (Plate 30). Two loops of sinew thread (*kingautik*) will also be sewn to the inside of the skin to the rear of the nose boot, and three loops will be sewn into the inside of the skin in the rear, near the point where the cover will fit onto the stern post. These loops will accommodate the temporary lashings which will hold the cover on the kayak while the deck skin is being stretched and sewn into place (Plates 31, 32). The skin is now taken outside to the waiting kayak frame. Working together, the men and women now place the kayak cover on the frame (turned upside down) and make secure the nose boot to the prow of the craft (Plates 33, 34). The skin is stretched the length of the craft, and the arm flippers (which till now remain on the skins intact) are cut out (Plate 35). The skin is tied to the stern post by stretching it over the post and by securing it with a convenient piece of rope of sealskin line (Plate 36). The craft is then turned over, and slits are made in the cover at regular intervals along its length on both sides. A length of sealskin line (called a *tututik*) is then threaded through the holes, and the skin is stretched up the sides of the frame toward the gunwales (Plates 16, 31). When the skin is stretched tight enough, the kayak

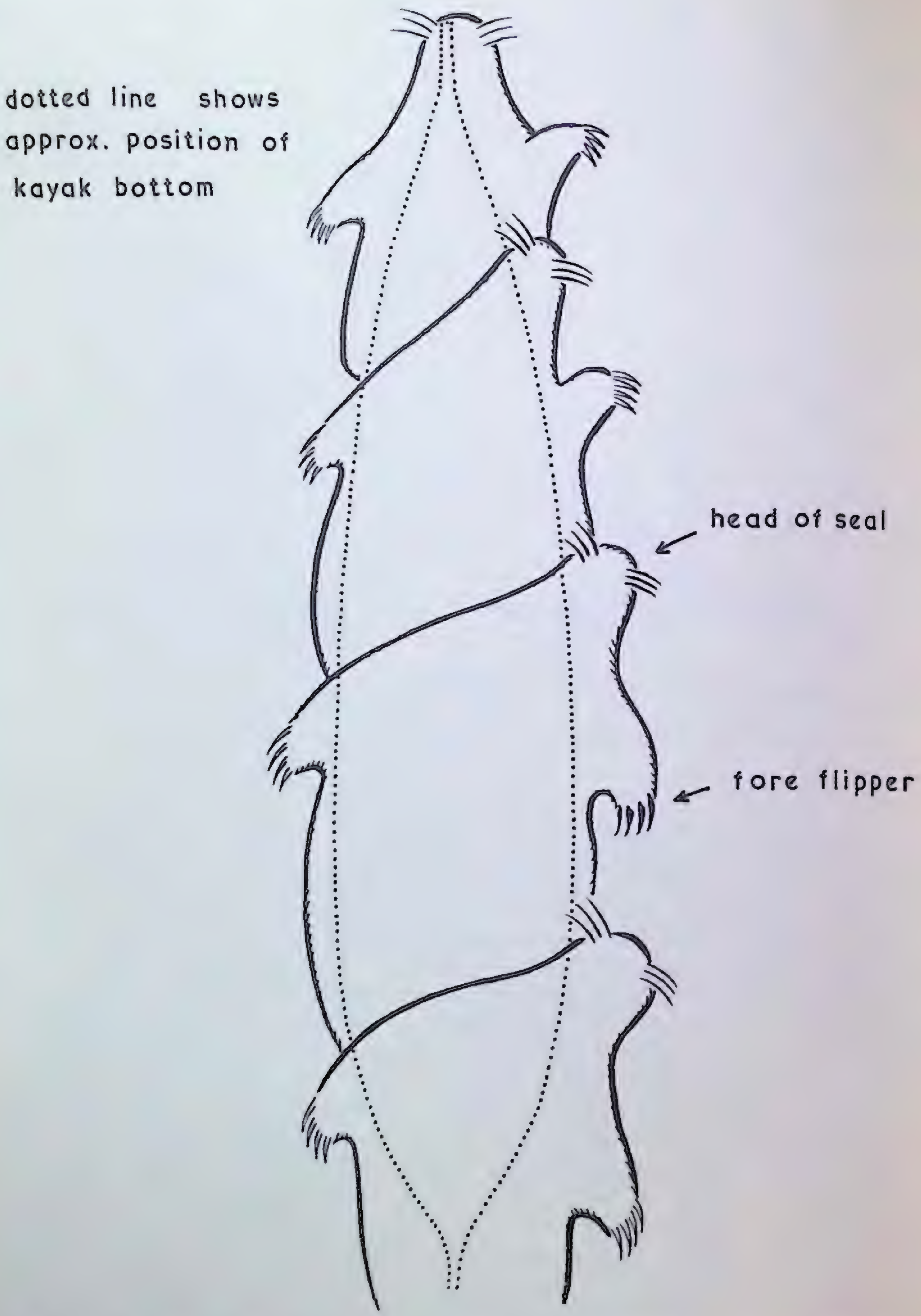

FIGURE 14.—*Diagram showing relation of sealskins when sewn for making bottom of kayak cover.*

is moved to the tent. The canvas tent wall is detached from the doorway, and the kayak is moved inside, the stern to the rear of the tent and the bow protruding (in most cases) through the tent opening beside the door. Inside, the frame and cover are laid upon dried skins to prevent the cover from being damaged by rubbing against the tent flooring. Then, with the stretching line still holding the bottom part of the cover tightly, the women lay out the six deck skins[1] and begin to sew. Dog skins are customarily laid out on top of the craft for the women to rest their arms on, so as to protect their clothing from the 'ripe' cover skins. Each woman works on a particular area, sometimes one woman to each side of a skin as it is draped across the frame.[2] Sewing techniques are the same for the cover as for the bottom pieces, except that the inside of the lapped seams are not whip-stitched. The lap is smaller—i.e., approximately one-half inch—and the loops of the stitch are broader to make the seam tighter throughout its width (Plate 37). The cockpits are on hand at this stage of the work to be certain that the deck cover skins are generous enough to provide room for securing the inside edge of the cover skins to the cockpits.

Attaching the Cockpit

When the deck cover has been completely sewn, the now nearly-finished kayak is returned to the outside and turned over to the men for finishing, while the women set the tent back in order and go to their respective homes to attend to their household work. The men trim off any excess skin from the edges of the cover skin around the cockpit opening, slit the skin to accommodate the lashings, and stretch it to the inside of the cockpit support braces. While holding the skin in this position, the cockpit frames are fitted into place over the skin, a pole is placed over the cockpits, and the pole is lashed temporarily to the bottom stringer of the kayak by means of sealskin lines. A length of one-eighth-inch line is then prepared and a knot put in the end. The line is threaded from the inside, through the lashing holes in the back of the cockpit frame, then fed back into the frame from the outside. The line is then fed through one of the slits in the cover edge and fed back through the next set of holes to the outside, then back to the inside through the common outside hole, and so on until the cover skin is completely lashed to the cockpit frame (Plate 38). The line is then tied off and cut so as to leave no lead. The kayak is now virtually complete, except for the attachment of the deck lines in front of the cockpit, which are used to hold various articles, such as a harpoon, a rifle, game, and so on, while paddling, and are also used as a hand-hold when beaching the craft.[3]

Applying the Deck Lines

To attach the deck lines to the craft, two workers are required. One gets inside the craft with a length of one-quarter-inch line. A partner bores a hole through the cover and gunwale with a brace and bit. The line, knotted at the far end to keep it from slipping through, is then fed through the hole from the inside. It is passed over the deck of the craft where it is fed through a like hole on the opposite side, knotted on the inside, and cut off. If two such deck lines are desired, the line may not be cut off but fed through a second series of like holes drilled for the purpose approximately four to six inches to the rear of the first set. In the case of the two-hole kayak, still a third deck line is applied directly in front of the rear cockpit (Plate 39). The craft itself is now complete and will be put up on a kayak stand to keep it out of reach of the dogs.

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[1] Four is the customary number for one-hole kayaks.

[2] Birdskins (mostly sea gull skins or others not suitable for making parkas) are also available as 'towels.'

[3] The three lashings are actually a carryover from a former period when the two forward lines were used to fasten a large wooden frame on the forward deck of the craft. This frame consisted of a circular wooden basket into which harpoon lines were coiled, and a small wooden rest upon which the harpoon was placed. The backline accommodated two long pieces of wood (not unlike the lateral bottom stringers in form) which formed a railing along the outside edge of the afterdeck. Before firearms replaced the harpoon as the main seal hunting weapon, a sealskin float (*aratak*) was attached to the end of the harpoon line to tire the seals and make it possible to retrieve the line. One will occasionally see these old implements faithfully reproduced on model kayaks which the Islanders make for sale.

Optional Pieces

So far, I have limited myself to a discussion of parts which are generally installed in kayaks. I will now insert a brief consideration of three optional members sometimes installed in kayaks. All pertain to the bow of the craft, and all are installed at the option of the builder.

The first optional piece one may term 'the prow' of the craft (*ucujak*), which is a wedge-shaped piece of wood approximately 1½ by 1½ inches by 12 inches long, as shown in Figure 2. This piece is found in most kayaks and is commonly installed by means of two type 'A' ties, one near each end. The ties bind the prow to the forward end of both gunwales. The prow piece is optional to the extent that it is installed when the rise of the bow section of the gunwales is not sufficient to raise it out of the water to the desired height. In such cases the gunwales will be cut off on the bottom, and the prow piece will be installed on top.[1] It may also be used when the log from which the gunwales are cut is less than four inches in diameter. Should this be the case, the prow member will be added to increase the thickness of the bow.

No prow piece was installed on the *pacalik* described here, because the finished gunwales conformed ideally to the desired rise and width at the bow. When used, the prow piece is ordinarily the last piece installed before the frame is covered.

A second optional member may be termed the 'support wedge,' which is of about the same dimensions as the prow. It is fitted to the angle created by the intersection of the gunwales and the bottom stringer, where the latter ascends from the first rib of the bottom of the craft to be mortised into the bottom of the gunwales (*see* Figure 2). Its function is to reinforce the bottom stringer and either to prevent it from breaking or to patch it, should it be broken. Nearly all craft on the Belcher Islands have this member, although most kayak owners wait until the bottom stringer is damaged before installing it.[2]

The *pacalik* I have described did have this member. In order of installation the support wedge was inserted between gunwales and bottom stringer after these had been joined and tied (Plate 23). It is bound by means of one or two type 'A' ties.[3]

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[1] A 'prow' piece is commonly installed on top of sled runners to increase the rise, so that it will clear deep snowdrifts.

[2] One can only speculate as to why this piece is installed only after damage is done to the bottom stringer. Since the rising bottom stringer forms the cutting edge of the bow, it is certainly the one piece of the craft most susceptible to damage. Still its optional character is attested to. Indeed, it really qualifies as a 'patch,' since it bears no name in the otherwise well laid out nomenclature of the skeleton's components.

[3] Nowadays it is secured with nails, of course, like all members of the frame.

A third optional member may be termed the 'support triangle.' This piece has no Eskimo name and is really a patch, although the writer was informed that it might be installed before any break occurred. It is made from a roughly formed 2- by 6-inch piece about 10 to 12 inches long. A triangle is cut out from it, and the angle formed by the two longest sides is truncated, forming a piece as shown in Figure 15. Such a piece is inserted between the gunwale and stringer somewhere between where the stringer joins the gunwales in the bow on one end and where it passes over the first rib (*see* Figure 1). Its function is identical to that of the support wedge, to reinforce the bottom stringer where it forms the leading edge of the bow. The writer is uncertain precisely when this member is installed.[1] Presumably it is inserted and tied, again with type 'A' ties, at the same time that the support wedge is joined to gunwales and bottom stringer. The *pacalik* described here had no support triangle.

The Paddles

It is difficult now to follow the format I have adopted in describing the kayak's construction (i.e., as a specific case of a 'typical' activity) when it comes to a description of the paddles. Each kayaker's paddle is made like his parka—to fit him only; and there are quite as many variations as there are kayakers. When the kayak had been completed and when the only step that remained was to produce the paddles, I was asked how I wanted them. Being no authority on such matters I replied that they should be made as the builder would make his own. The 'prime contractor' of the craft (E9-19) and another worker (E9-1) each took on the task of cutting one paddle—each to his own specifications, and each came out with a different product. The paddles finished, they at once underwent modifications, by various men who tried them out. One man complained of their excessive length, another of the overly-wide blades, another of their lack of balance. Each took a knife to one or the other in an effort to remedy the fault. One may assume, then, that there is no formula for producing paddles, in fact paddle-making is a continuous process that is renewed every time a paddler goes out in his boat to hunt.[2]

With these limitations in mind, I will discuss briefly the making of paddles. The kayak paddle is commonly formed from a board 14 to 16 feet long. The blades are 4 to 5 inches broad and three-quarters of an inch thick. When the blades are cut out to their general form with a hand-axe, a small block plane is applied to the sides to reduce the thickness of the blade edges. This produces a paddle blade, diamond-shaped in cross-section, two points of the diamond representing the edges of the blade, the other two the top and bottom of the spine of the blade. Inboard from the blades are two long tapering necks which serve as hand holds. In the centre the paddle is about 2½ inches square (Plate 40).[3]

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[1] Only two of the eight craft observed have this part. Like the support wedge, this part has no name in the nomenclature.

[2] The writer has observed men going out for a hunt who stop in the water, whittle a little wood off their paddles with a pocket knife, and proceed. In one case, the paddle had been the property of the kayaker for "eight or nine seasons," and was still being worked on.

[3] Plate 27 shows a broken paddle being used as a pole on which a kayak cover is hung for sewing. Note contours of the paddle and the splicing.

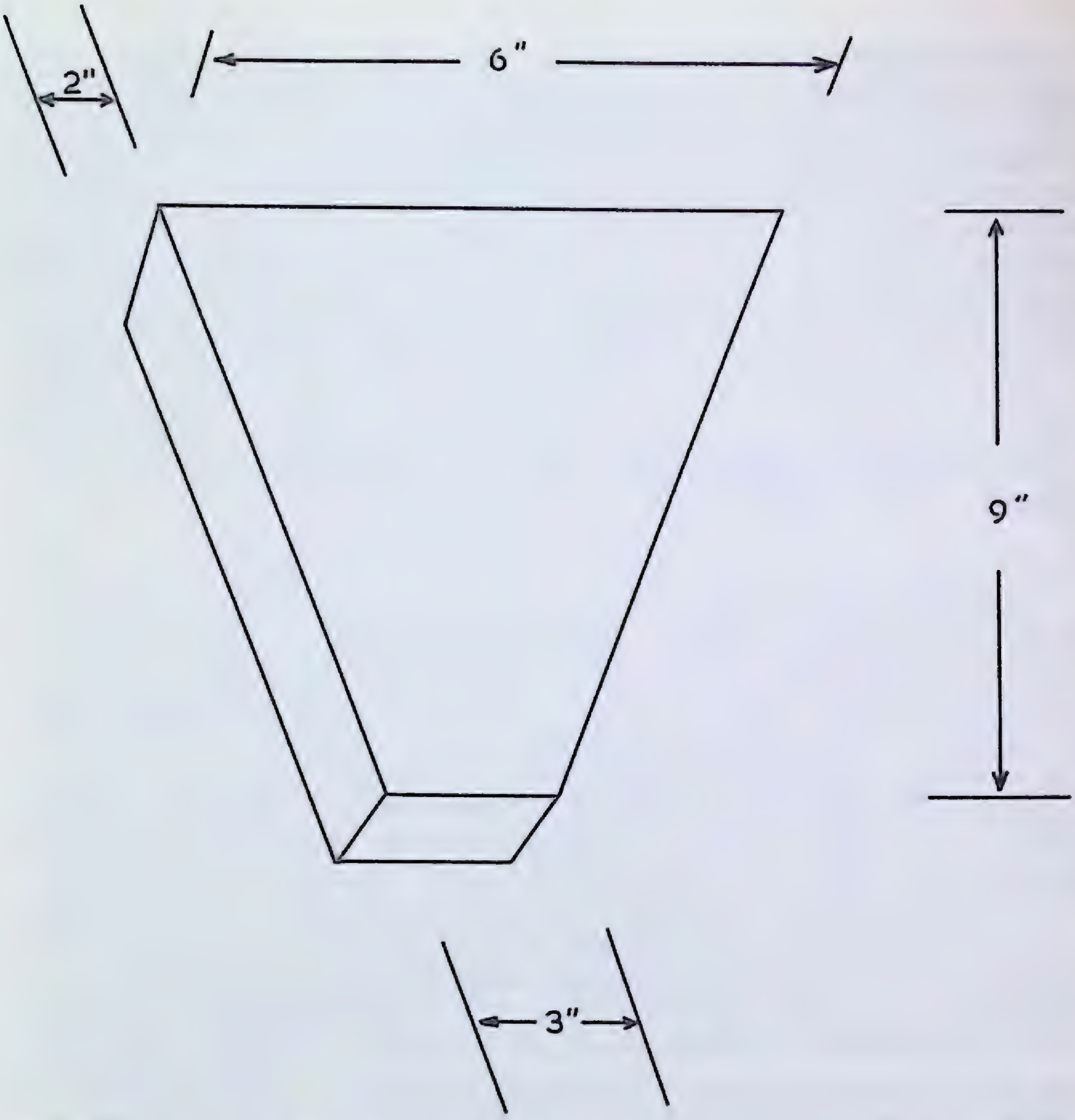

FIGURE 15—*Details of the optional triangle which supports the bottom stringer to the rear of the bow.*

When the paddles are finished, a small piece of cloth (*kallunacak*, literally 'white man's stuff') will be wrapped around both blades on the inboard edge to keep water from running along the paddle, wetting and softening the hands and thus causing blisters.

Patches

I have already described two parts at the *pacalik* frame which I adjudged patches because of their character, function, and the fact that they lack names. Here to be discussed is the question of the repair of the boat that has not been properly constructed or that has been damaged.

Patching the frame. Frames are repaired in the spring before they are re-covered. After covering, if some minor damage has been done to the frame proper but not to the skin, a few turns of sealskin line will be applied to bind up a split rib or other member. Occasionally, a broken member will be cut off, and a splice applied, lashing it to the old member to secure it. If the frame damage is great, more often than not a new kayak will be built, and the old frame robbed for usable parts. The breaking point between major and minor repairs is three-way: if the damage is such that the craft is still seaworthy, minor repairs are either effected at once or the craft is laid aside till the following spring when it will be stripped of its cover, patched up, and re-covered. If the craft is rendered unseaworthy by the damage, then a new kayak will be made, but again work will probably be postponed until the spring season.

As to frequency of breakage, the member most often broken is the bottom stringer. Other frequent victims are the ribs and lateral stringers—in brief, those members most susceptible to abrupt, traumatic contact with the shore, ice, and so on, or the frame parts which support these 'contact' pieces. Because of their large number and the very slight trouble caused by a single break, a fractured rib will frequently be ignored since it will not seriously impair the functioning of the craft. If, however, there is danger of the broken rib's puncturing the skin on the boat, a splice will be made in it, or it will be broken off and the sharp ends rounded with a knife.[1]

When the rib is spliced, the owner generally cuts it off above and below the break at an angle, joins a new piece of wood to it, cut at the reverse angle, and simply lashes the pieces together by wrapping them with several turns of sealskin line. Ordinarily, the owner can do this only when the break occurs close to the cockpit, because he will not be able to reach the bow or stern of the craft to repair it.

Repairing a break in the bottom stringer is not a common occurrence owing to the fact that it will most frequently fracture in the bow, where it is all but inaccessible. There seems to be no hesitation among boat owners in using a craft thus disabled, unless there is danger that a rupture in the cover may result. Ordinarily such a break will be left until spring re-covering for its repair.

Breaks in the lateral stringers fare equally. These are tough, well-made members and do not often break. More frequently, the ribs beneath them will fracture—most often where they are crimped with the teeth to form the bend. Here, too, the break will await spring repair.

The cover is subject not only to a possible puncture, but also to wear from abrasion. If a puncture or leak from wear develops on the bottom of the craft, a patch (as described in the section on skin sewing) will usually be applied to seal it. A temporary patch may be effected by putting a piece of adhesive plaster on the hole or, more frequently, by plugging it with a small wooden peg if the hole is small, round, and occurs where this technique is applicable. Holes on the deck and high on the sides of the craft will ordinarily be plugged with wooden pegs.

Paddles are most often broken beyond repair if they break at all, and even a crack in a paddle will eventually precipitate the carving of a new one. If the paddle is otherwise stout, however, a patch may occasionally be applied to a small crack or split which develops along the edge of the blade. In this case a hole may be bored into the edge of the paddle and a wooden pin driven in to secure the split to the remainder of the blade. Another technique used is to drill a hole vertically into the flat part of the blade, run a line through it, around the split and back to the hole, where it is tied tightly to draw the split tight against the blade. If cracks develop in the shaft, these will sometimes be lashed down, with several turns of line wrapped around the entire shaft and tied.

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[1] The writer has observed frames with as many as five broken ribs which were left till spring for repair.

The cockpit shield is also prone to splitting where the bend established to form it reaches a maximum. A number of precautions will be taken when this piece is being worked to ensure against any untimely split and to limit the extent of the splitting should it occur. In the first instance, as noted above, the middle of the long *paa* board is covered with a rag and bound tightly with a cord at the point at which the bend is to be established. The tightly-bound rag helps to support the outside fibres of the wood—those most severely strained by the forming process and thus most likely to break. It will also limit the action should a split develop, by keeping the splitting fibres bound closely to the main part of the board. In the event a split develops at the bend in the shield, a thin piece of wood will be applied to the outside face of the shield to reduce the strain on the outside fibres and to hold the splitting outside surface close to the main body of fibres. Generally, if the split involves only the outer part of the shield—i.e., no more than one-eighth inch in depth—the shield will simply be completed and the split fibres planed away till the outside surface of the shield is again smooth. If the split continues to develop either in thickness or in length, construction of a new shield is the only remedy (Plates 6, 7).

Finally, there are always broken lashings and ties. These appear to have been a constant problem in the past—one almost completely eliminated today by the use of nails. When a break of this type occurred, replacement of the ties was customary, although sometimes the ties could be spliced. Today, the frame proper may last for three to four years without the need for any major repairs, primarily because kayaks are less frequently used and subject to less abuse than in former years. In the old days before the introduction of power craft, when the kayak was the sole means of transport on the Islands, and when it was used not only to hunt seal mammals, which might periodically attack it, but also to move a whole household thirty or forty miles to another camp-site, five years was probably a higher-than-average life-span.

Covers too are now made to serve a second season in some cases, although it is admitted that annual re-covering is much wiser. This is unquestionably a modern phenomenon, a result of the decreasing use of kayaks.

In bringing this description to a close, one point should be stressed again. An Eskimo kayak, *pacalik* or one-hole, is never really completed. If the craft is well built initially, it will require little maintenance during the first five years. Even so, opportunities for remodelling come annually,[1] and some change is certain to take place.

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[1] This was true especially in the past. When sealskin line was the only available material for tying the craft together, complete dismantling was an annual affair because all parts had to be retied. With the craft completely disassembled there was greater opportunity to overhaul some portion. The use of nails makes complete dismantling unnecessary and, moreover, disadvantageous. Pulling the nails, which are usually toe-nailed, would result in numerous fractures of the dried and admittedly brittle wood.

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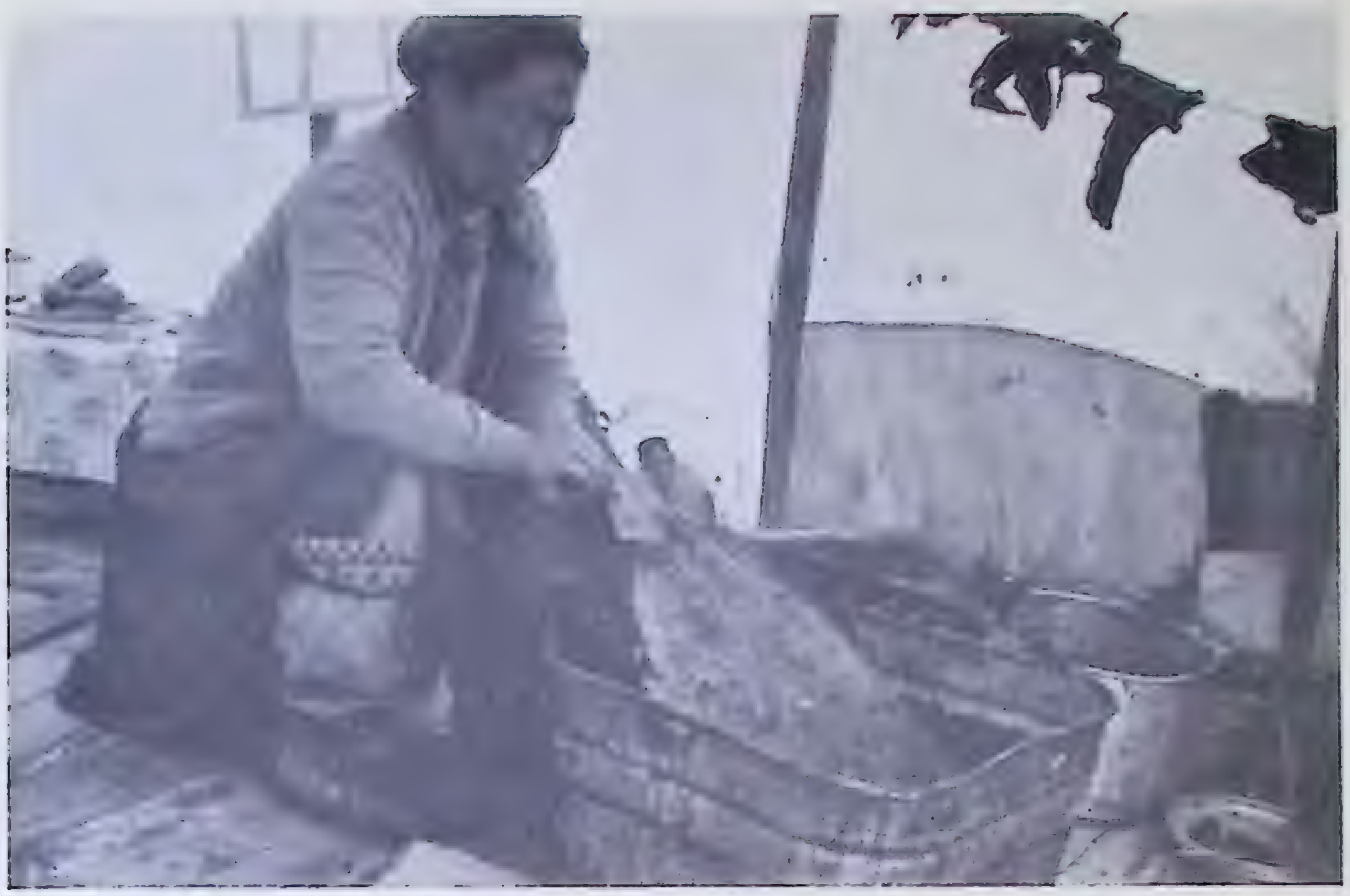
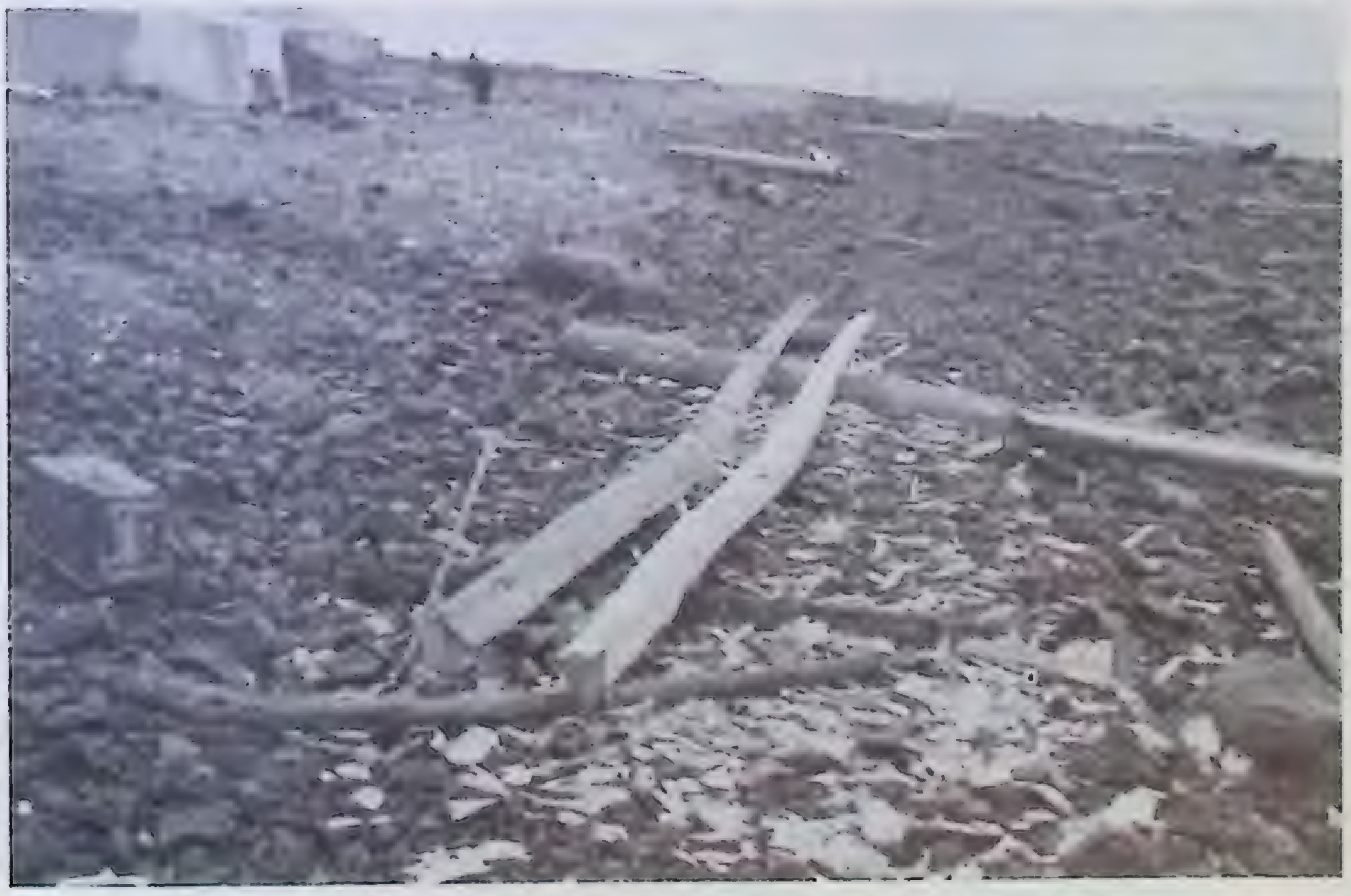
PLATES 1 to 40

PLATE 1



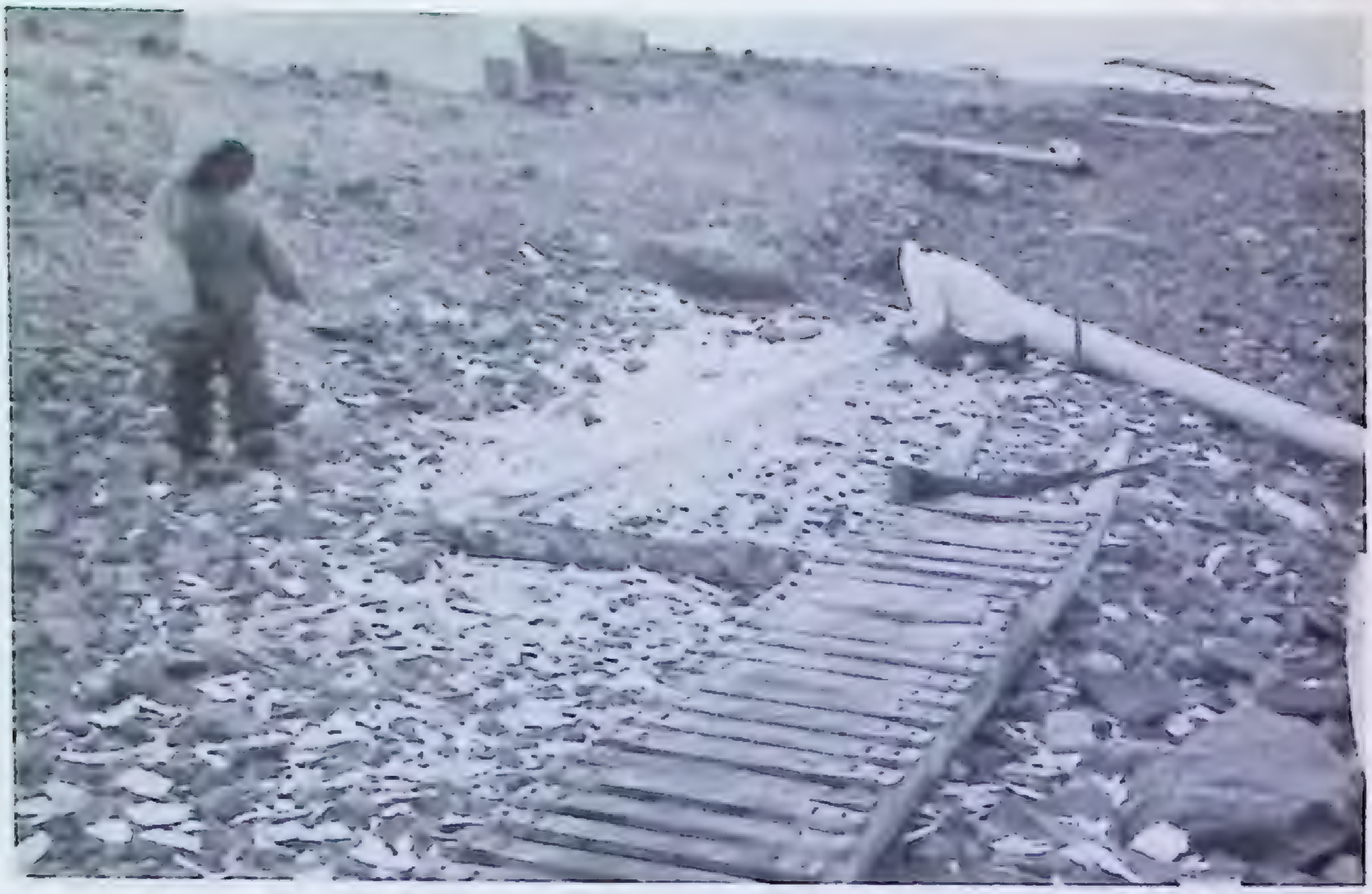
Mina Oppik (E9-20), wife of the kayak maker, scraping a sealskin.

PLATE 2



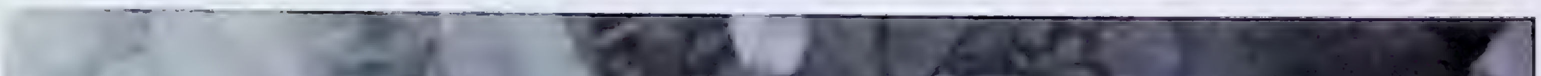
Gunwales just after splitting (stern ends to camera).

PLATE 3



Samwillie (A?aaluk (E9-19) trimming the newly finished gunwales.

PLATE 4

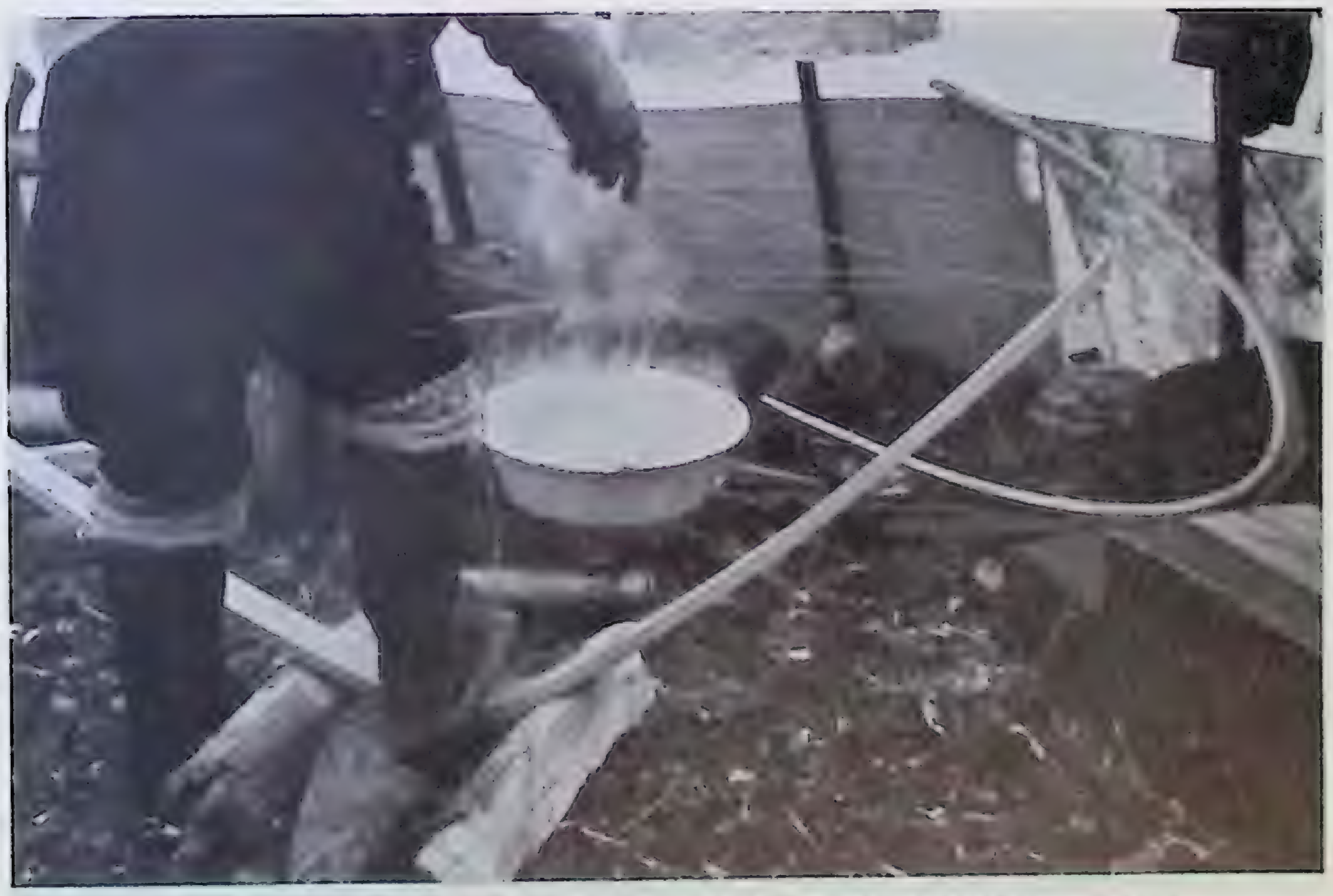


Finished stern.

PLATE 5

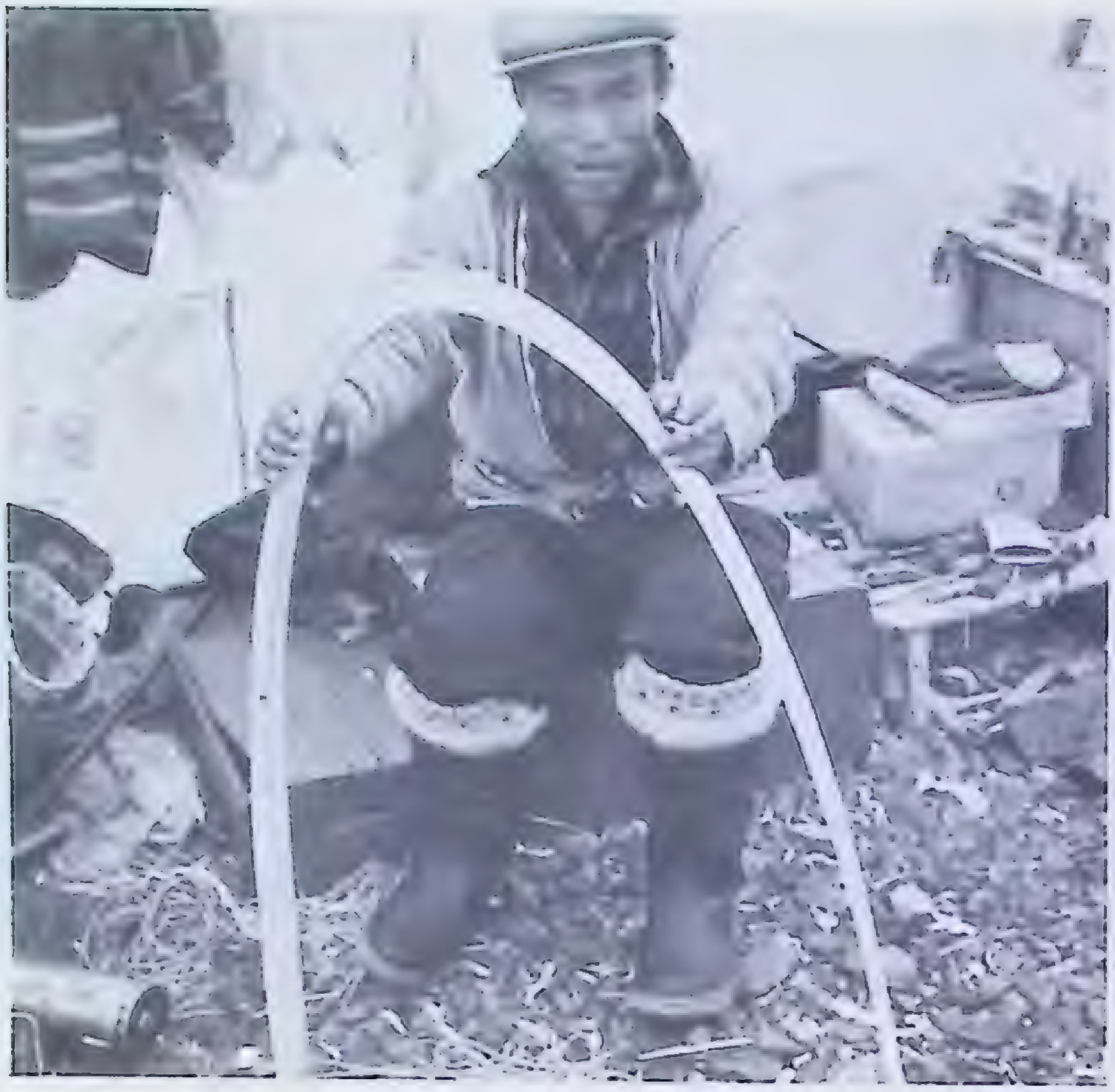
In the foreground the forward deck stringer is being bent under rocks. Behind, the deck braces are being put in.

PLATE 6



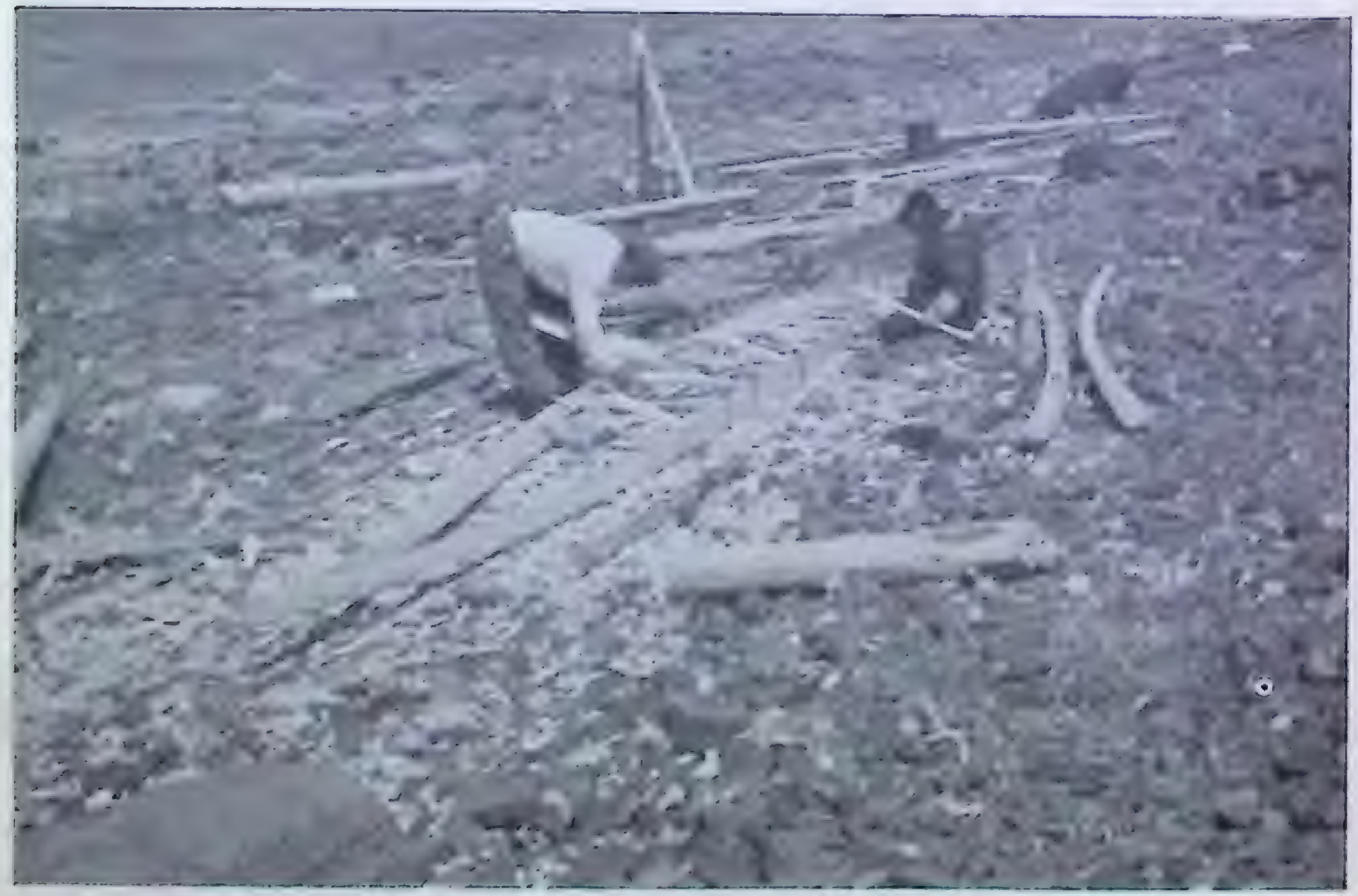
Johnassie Manomi (E9-56) bending the forward shield of the cockpit.

PLATE 7



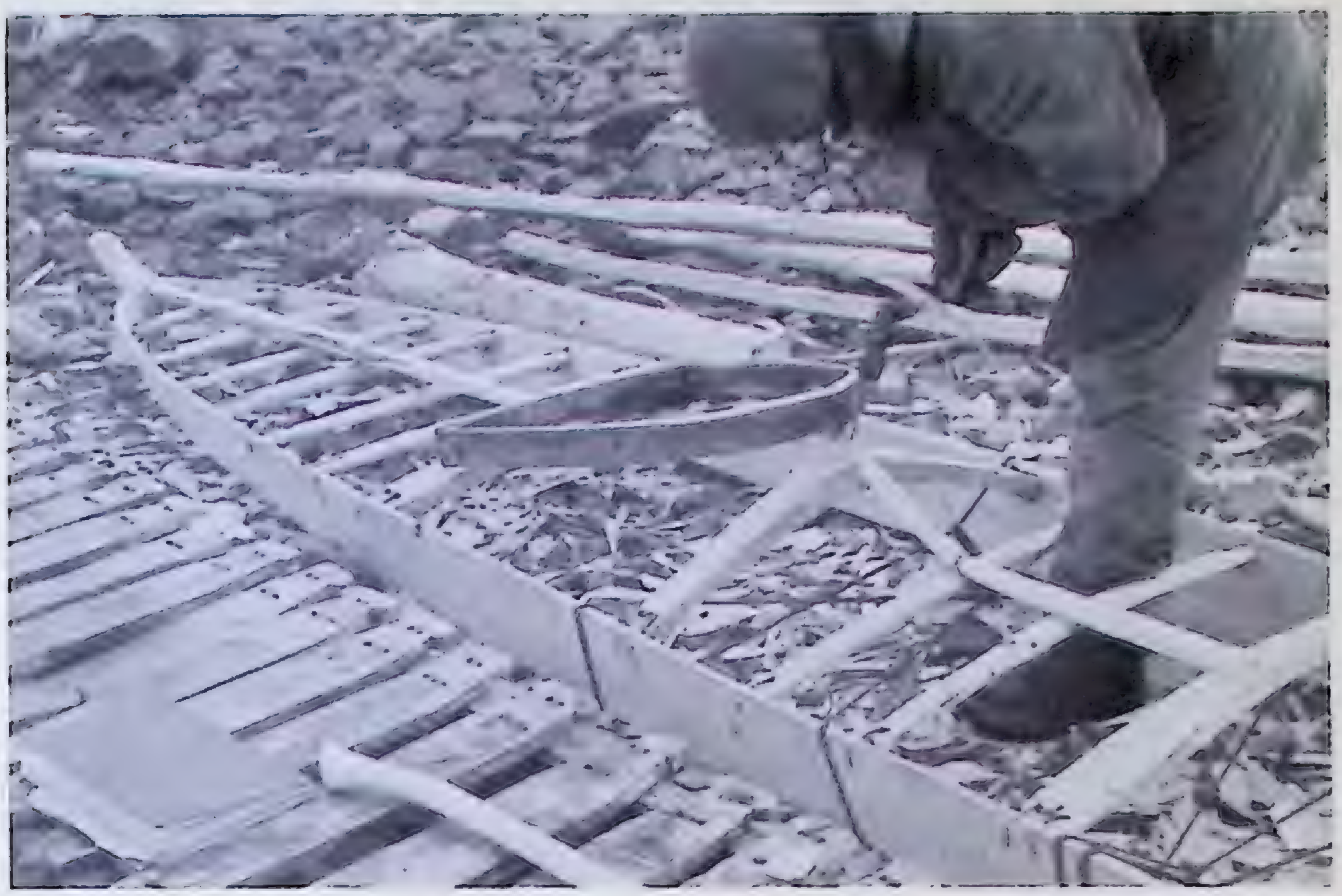
Johnassie and finished shield.

PLATE 8



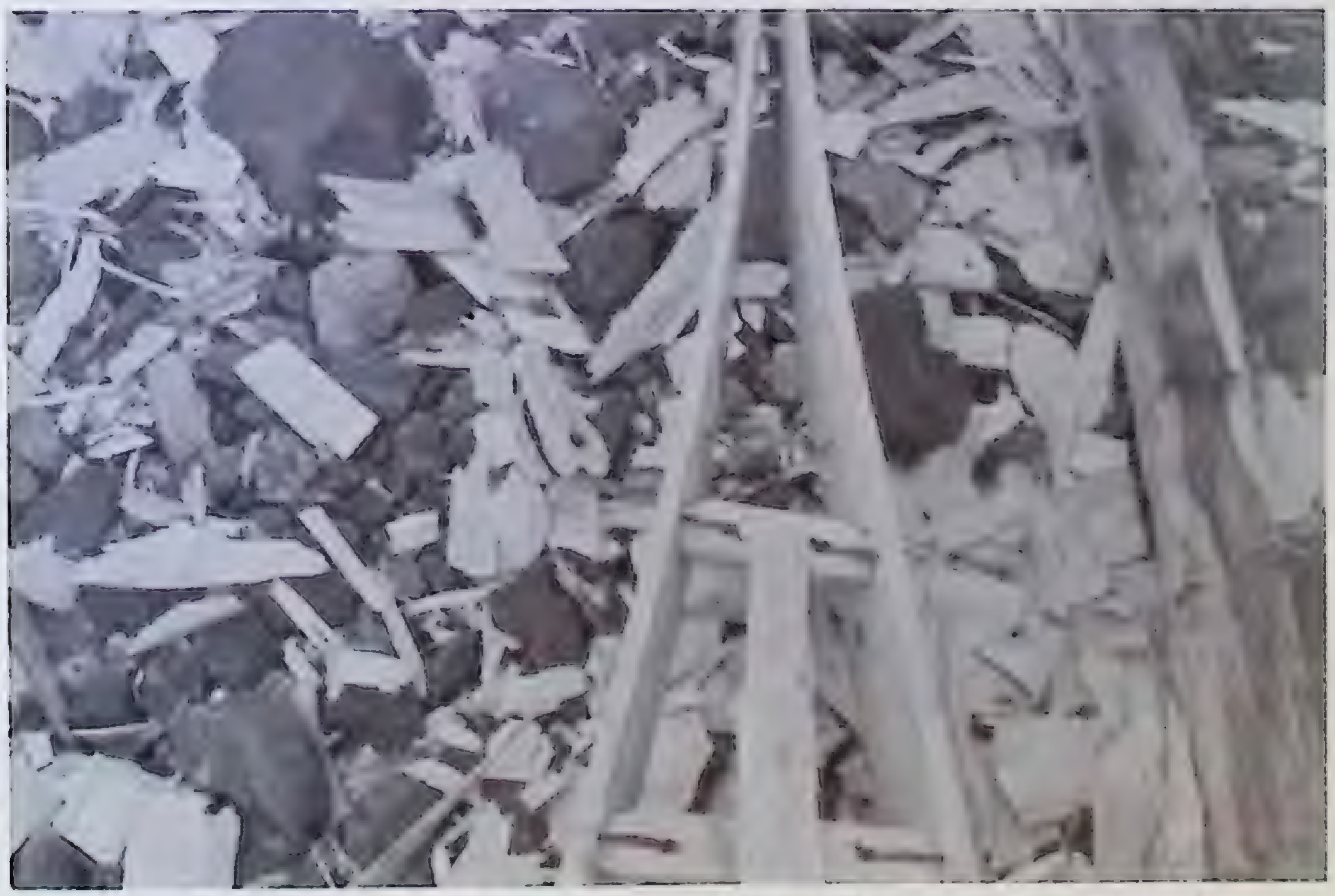
Samwillie (left) putting in the deck braces which Lucassie Qitusuk (E9-51) cuts to size. The two curved lateral stringers, half-formed, lie to the right.

PLATE 9



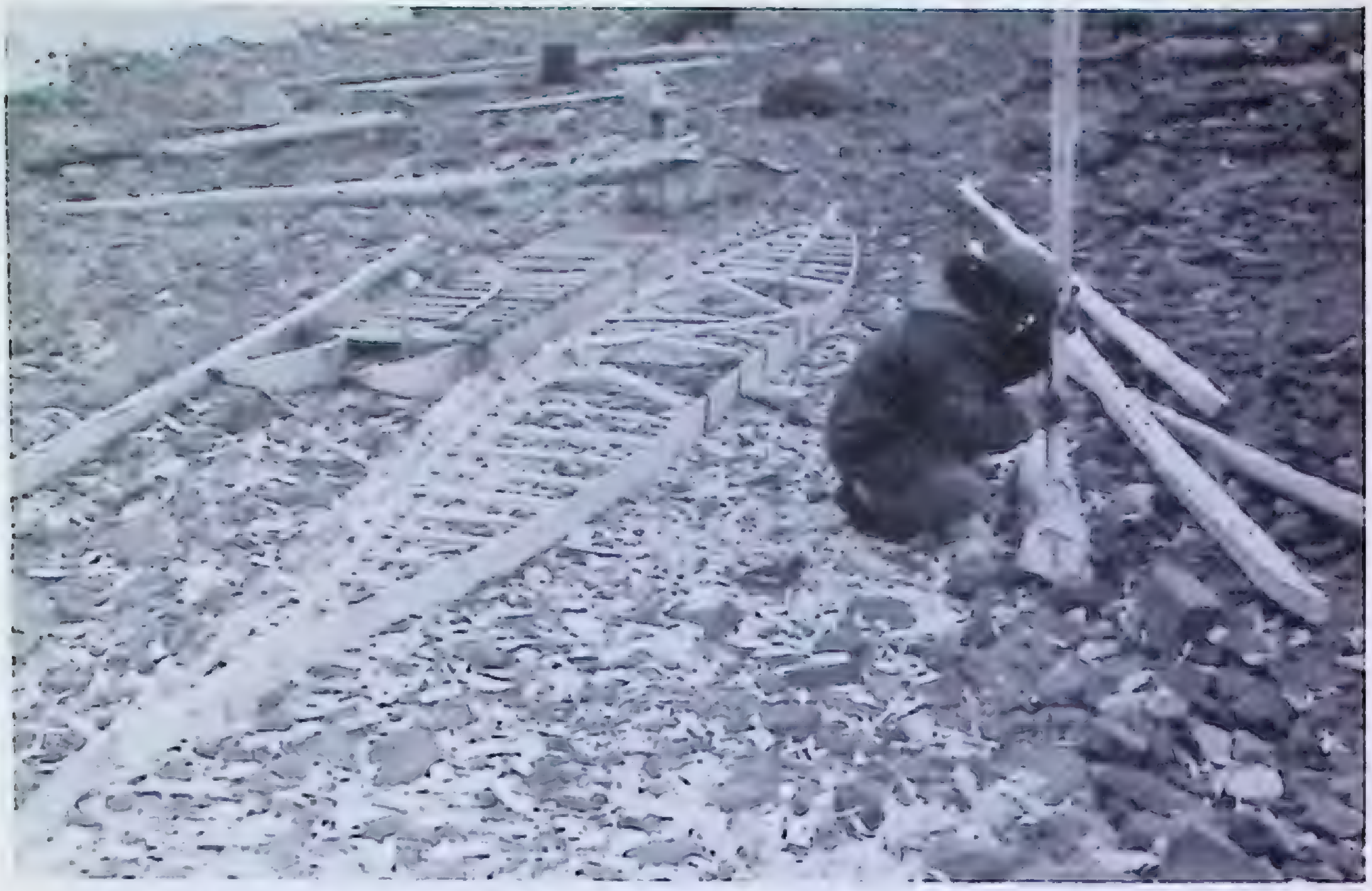
Lashings hold the gunwales together in position. Samwillie's own cockpit shield is used to cut and fit the deck stringer.

PLATE 10



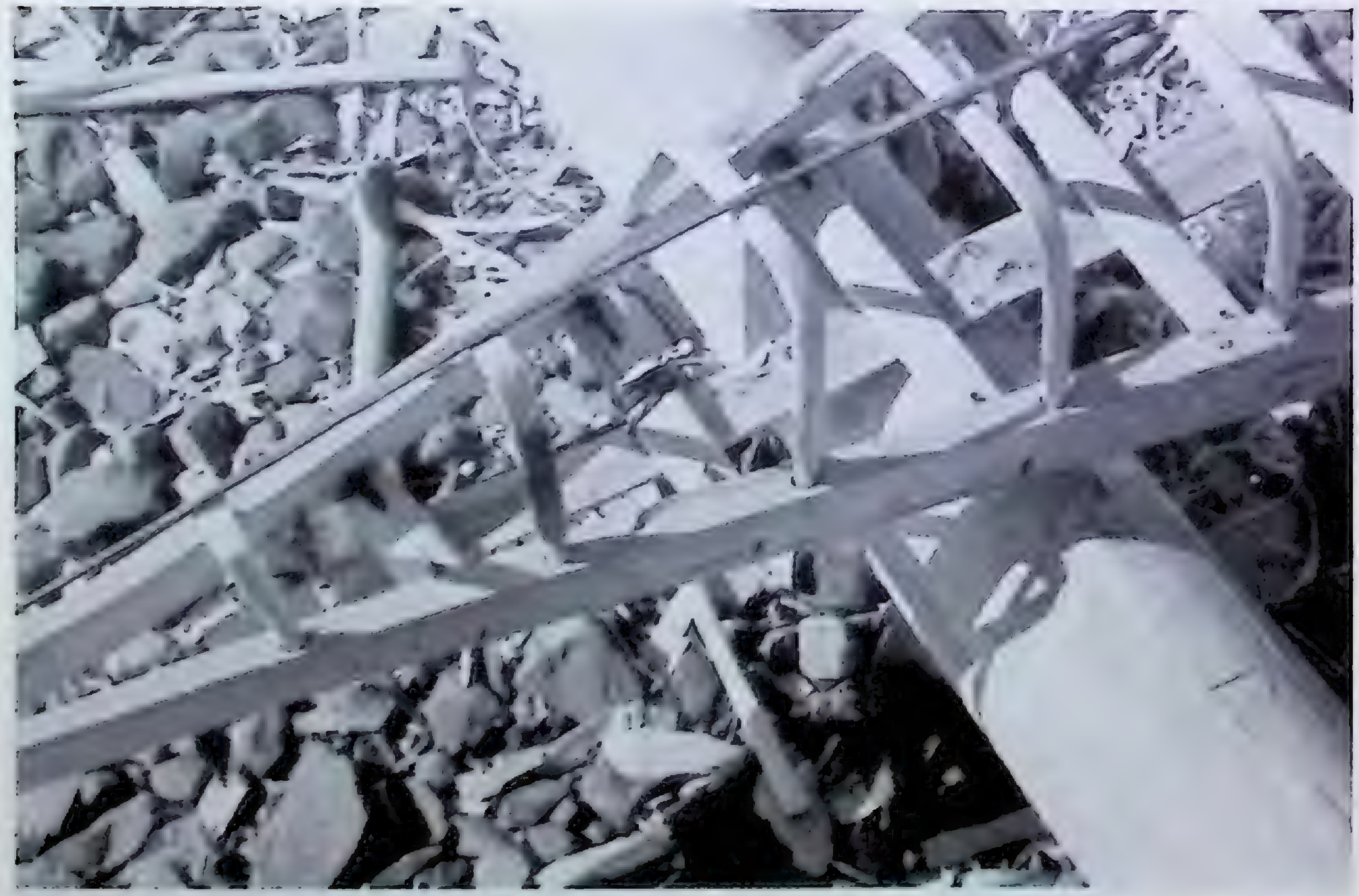
Type 'A' ties, top, and a type 'C' tie, middle, holding the gunwales together at the stem.

PLATE 11



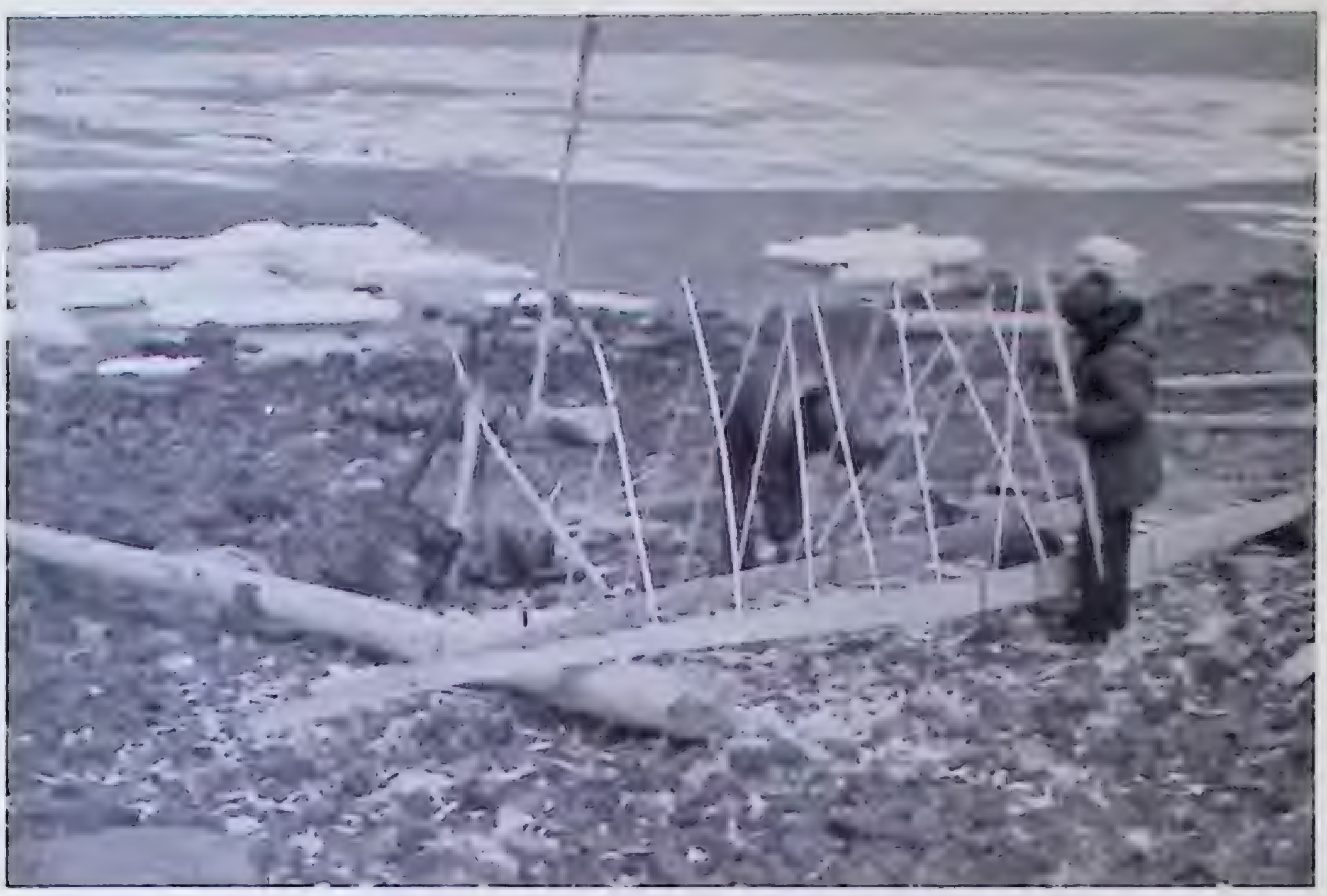
General contours with the deck beams in place. Samwillie trims the forward deck stringer.

PLATE 12



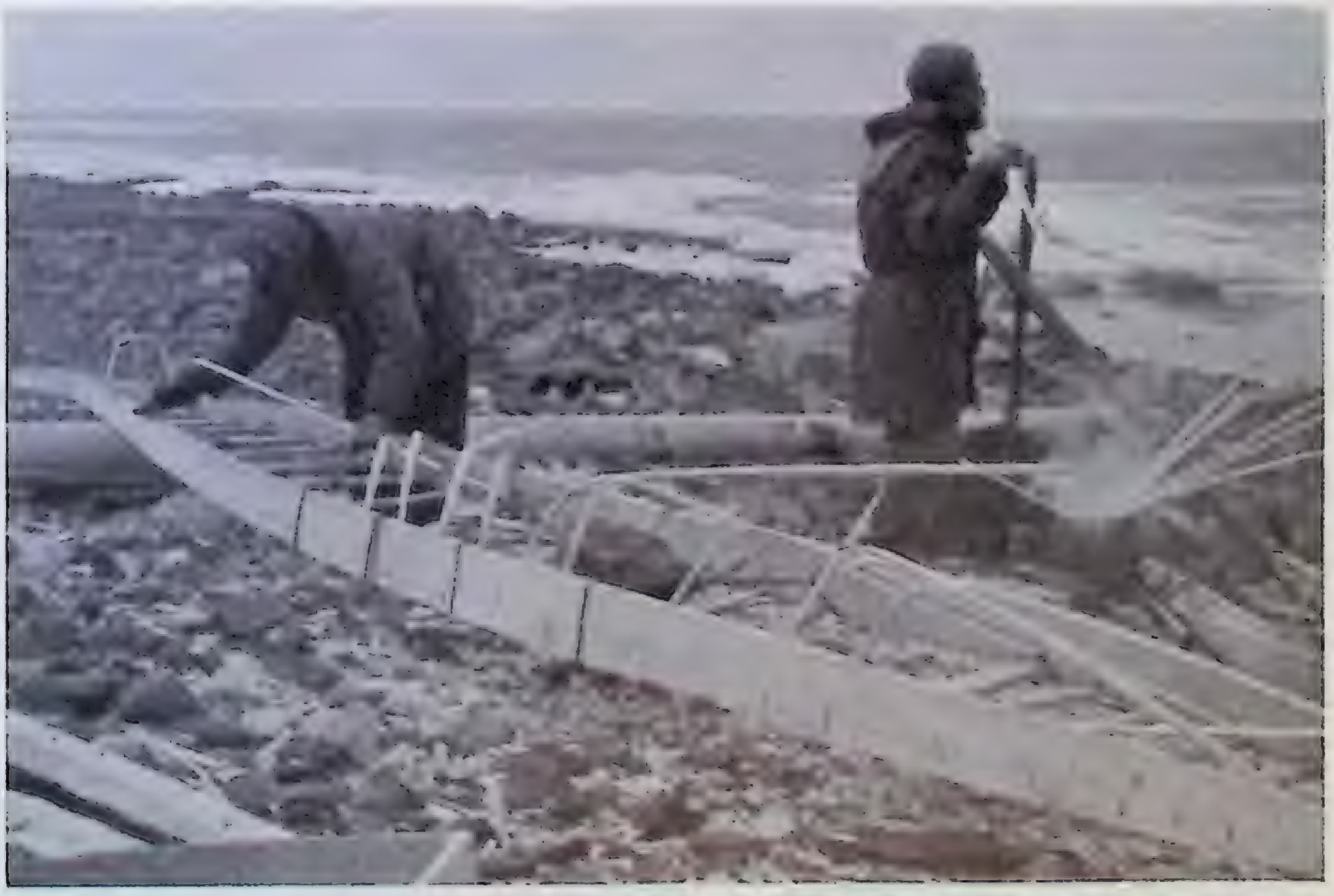
Line is used to level ribs for a smooth bottom. Note type 'B' ties securing deck braces to gunwales and type 'D' binding the stringer to a brace.

PLATE 13

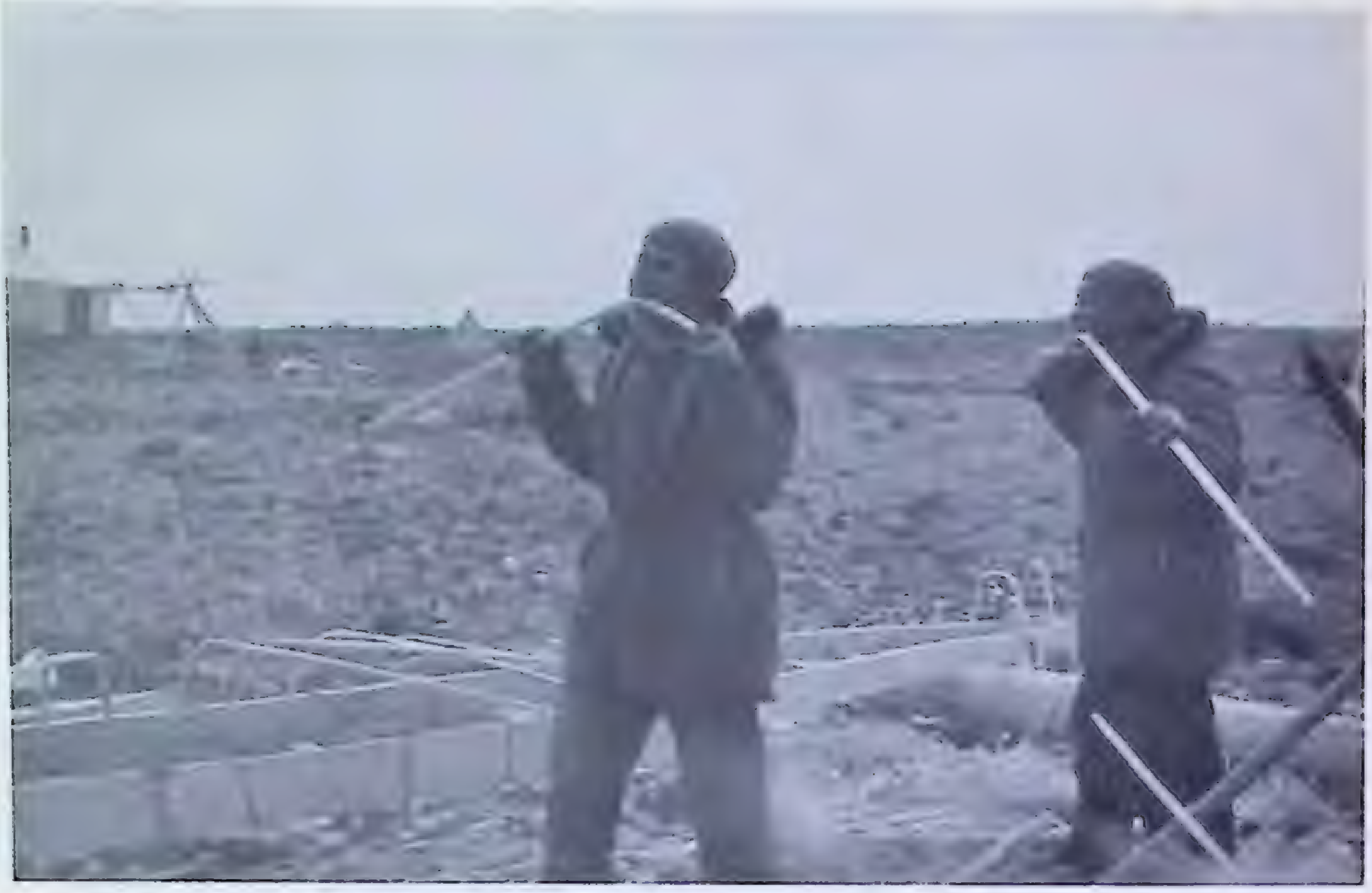


Inserting ribs in the gunwales preparatory to forming them. Note pot of water boiling for bending the ribs.

PLATE 14

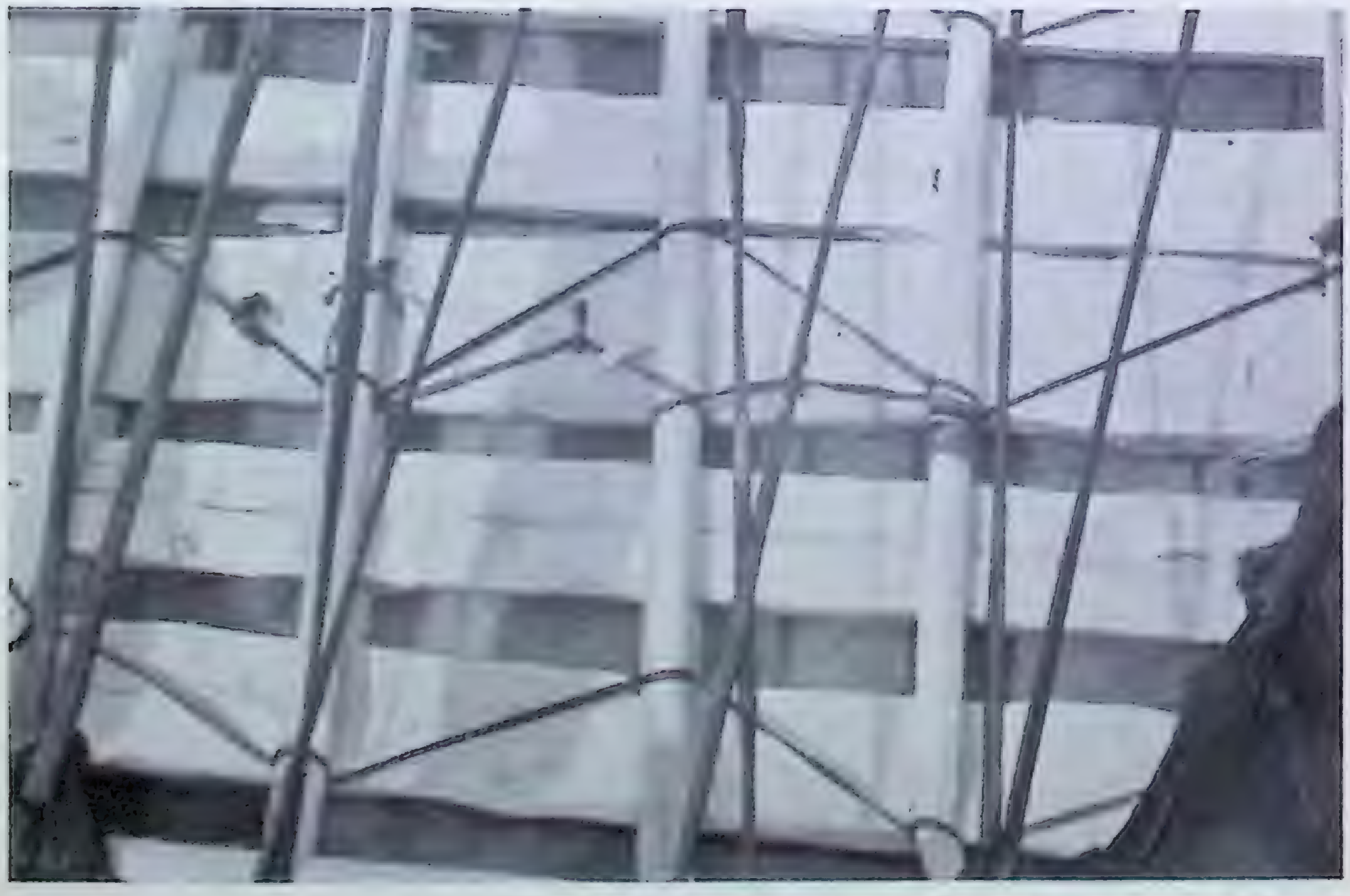


Samwillie (right) making the first bends in the ribs while Lucassie (left) cuts them to proper length.



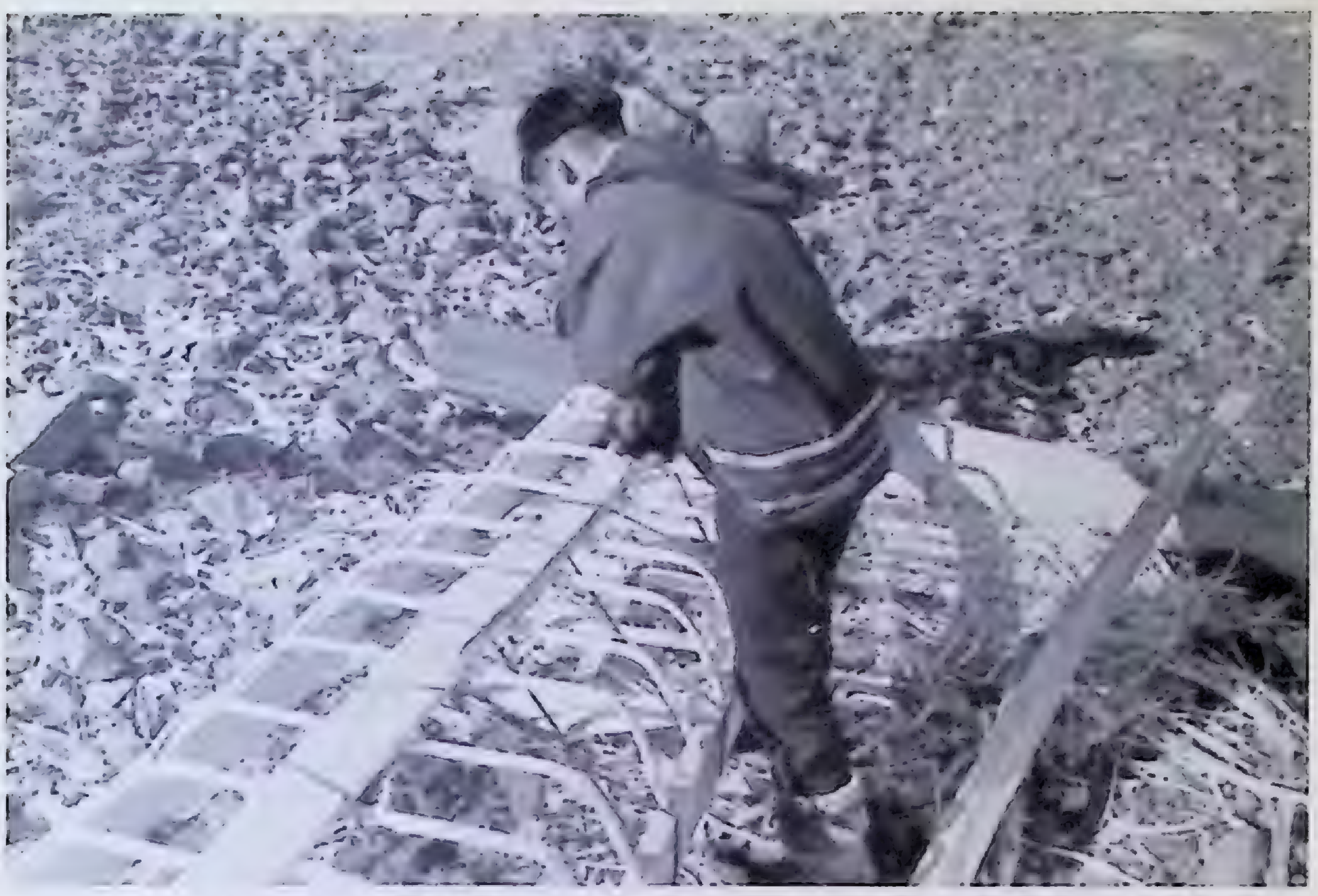
Manner of holding ribs while forming them.

PLATE 16



Disposition of bottom stringers and type 'D' lashings securing them to the ribs. Lines nearest camera are stretching on the cover.

PLATE 17

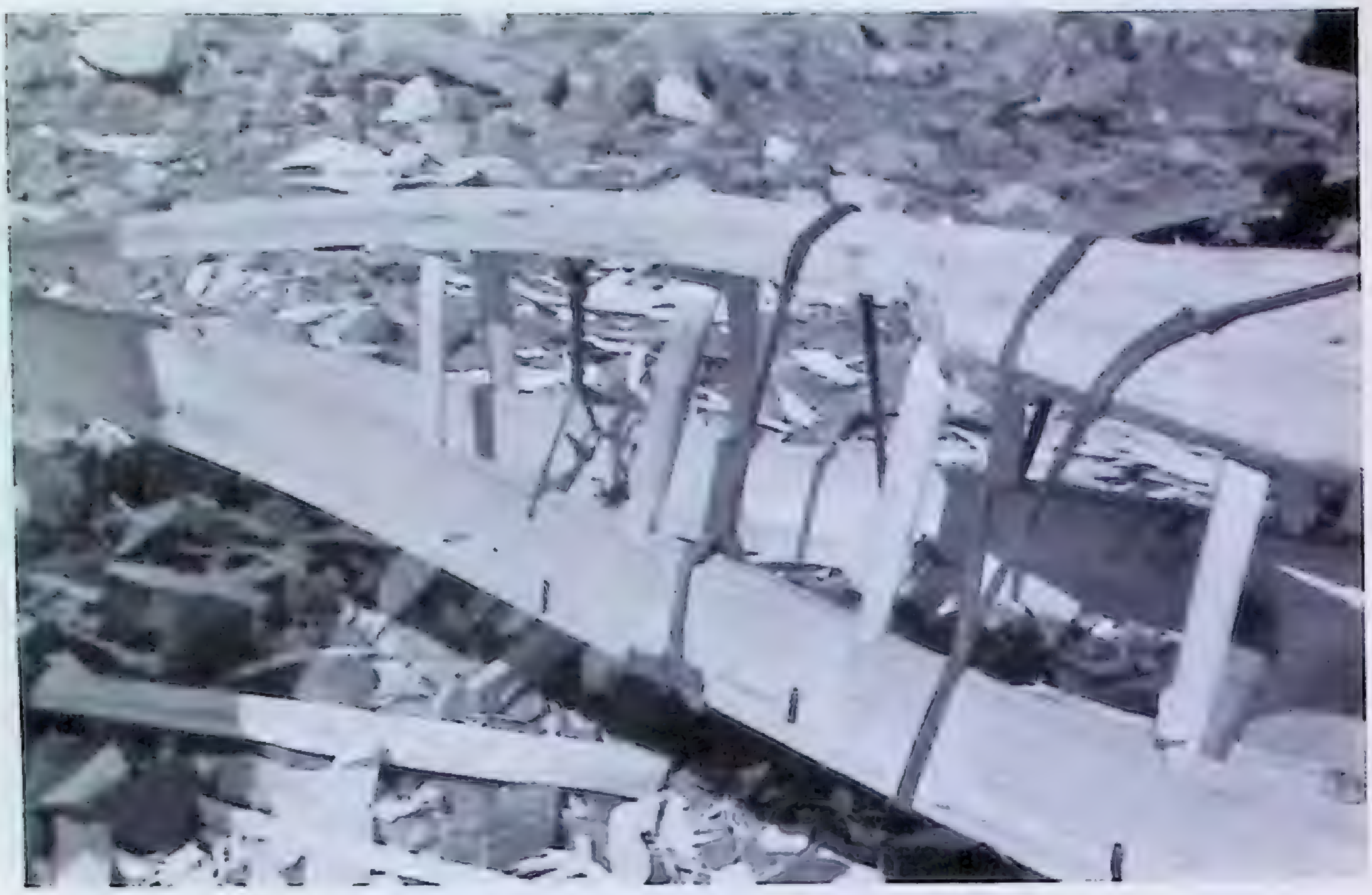


Lucassie Telero (E9-117) drilling holes in bottom stringer to facilitate its lashing.

PLATE 18

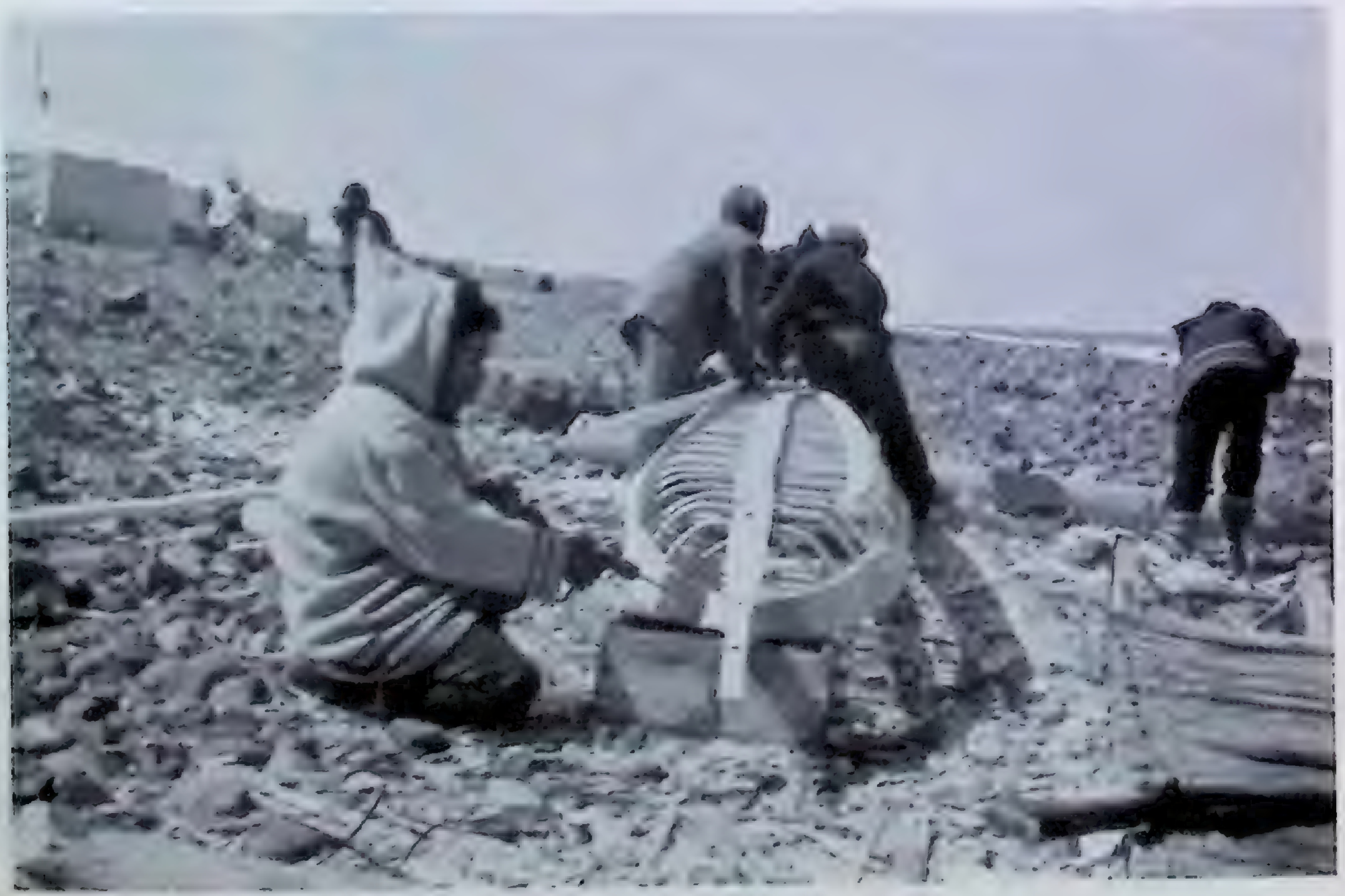
Continuous 'D' type lashing securing bottom stringer to ribs.

PLATE 19



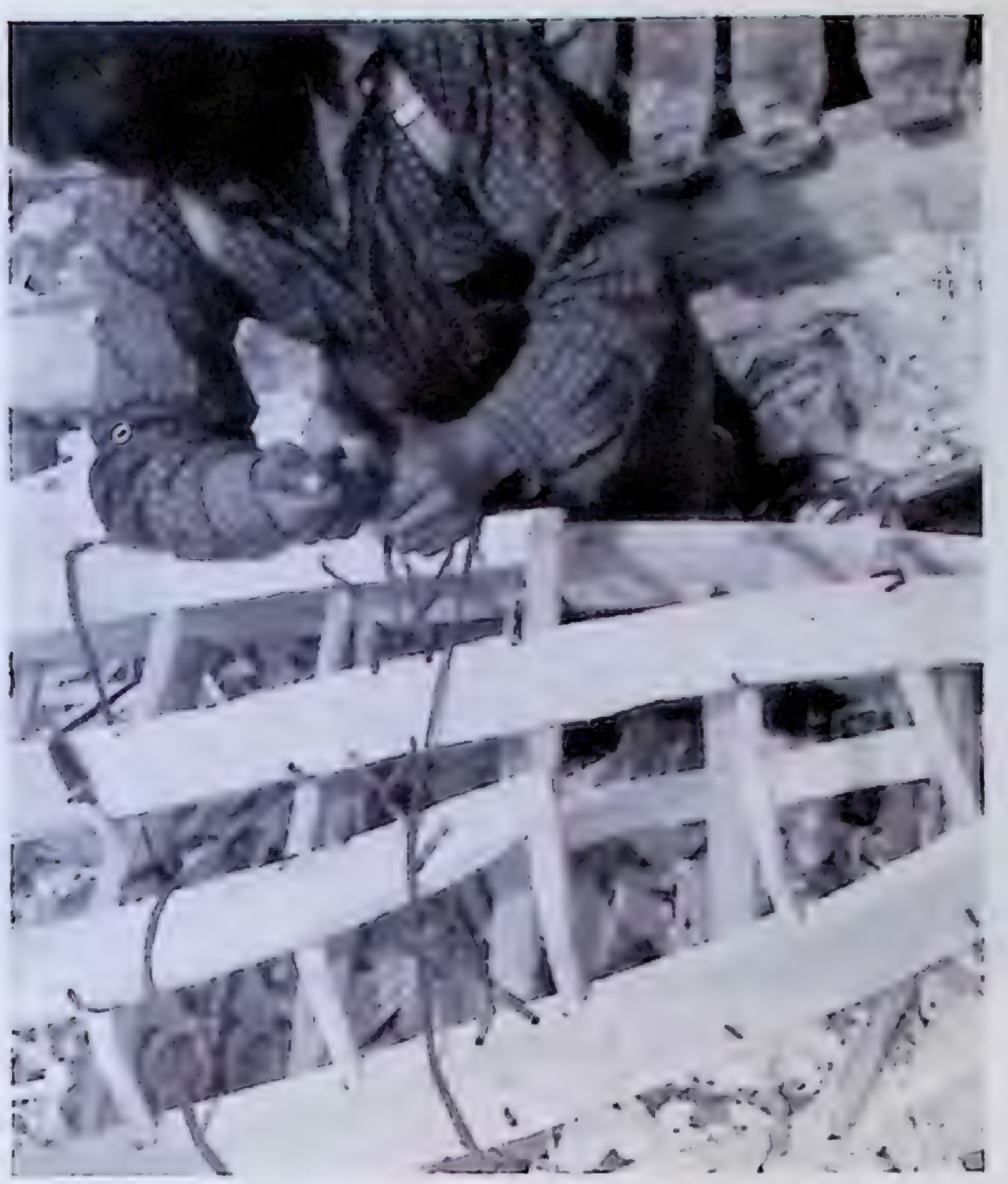
Type 'C' tie securing bottom stringer to gunwales at bow.

PLATE 20



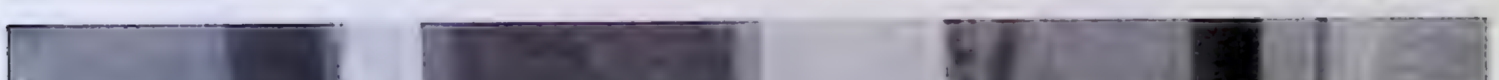
Putting on the bottom lateral stringers.

PLATE 21



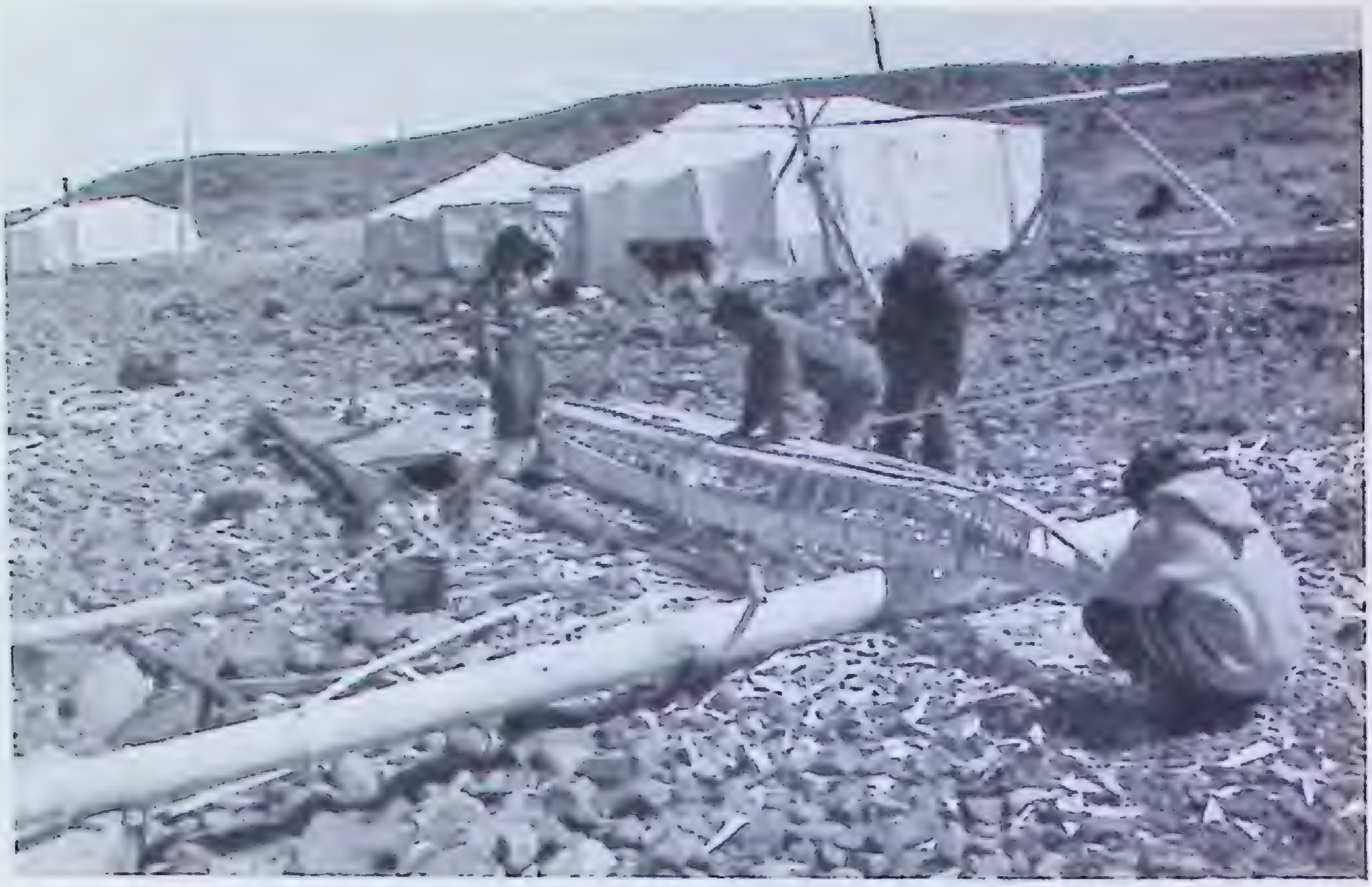
Isaac Amituk (E9-1), using type 'C' ties to link bottom and bottom lateral stringers and gunwales.

PLATE 22



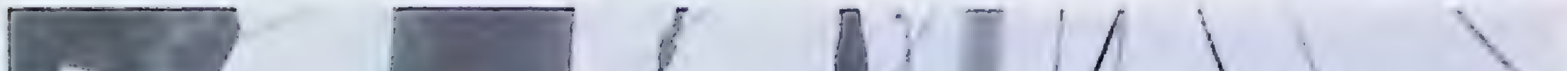
Type 'C' tie linking line stringer to gunwale amidships.

PLATE 23



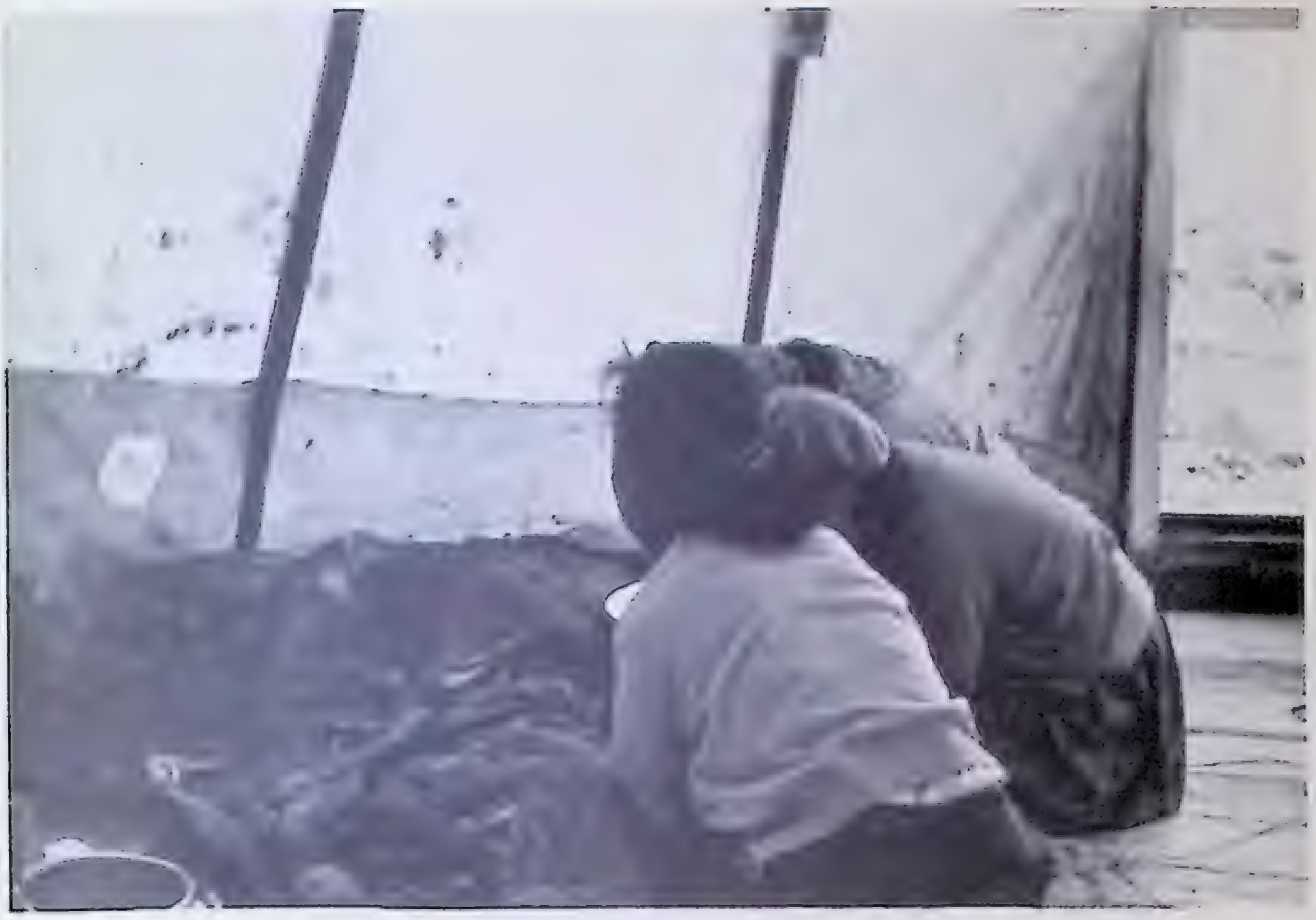
Placement of stringers and support wedge at stem.

PLATE 24



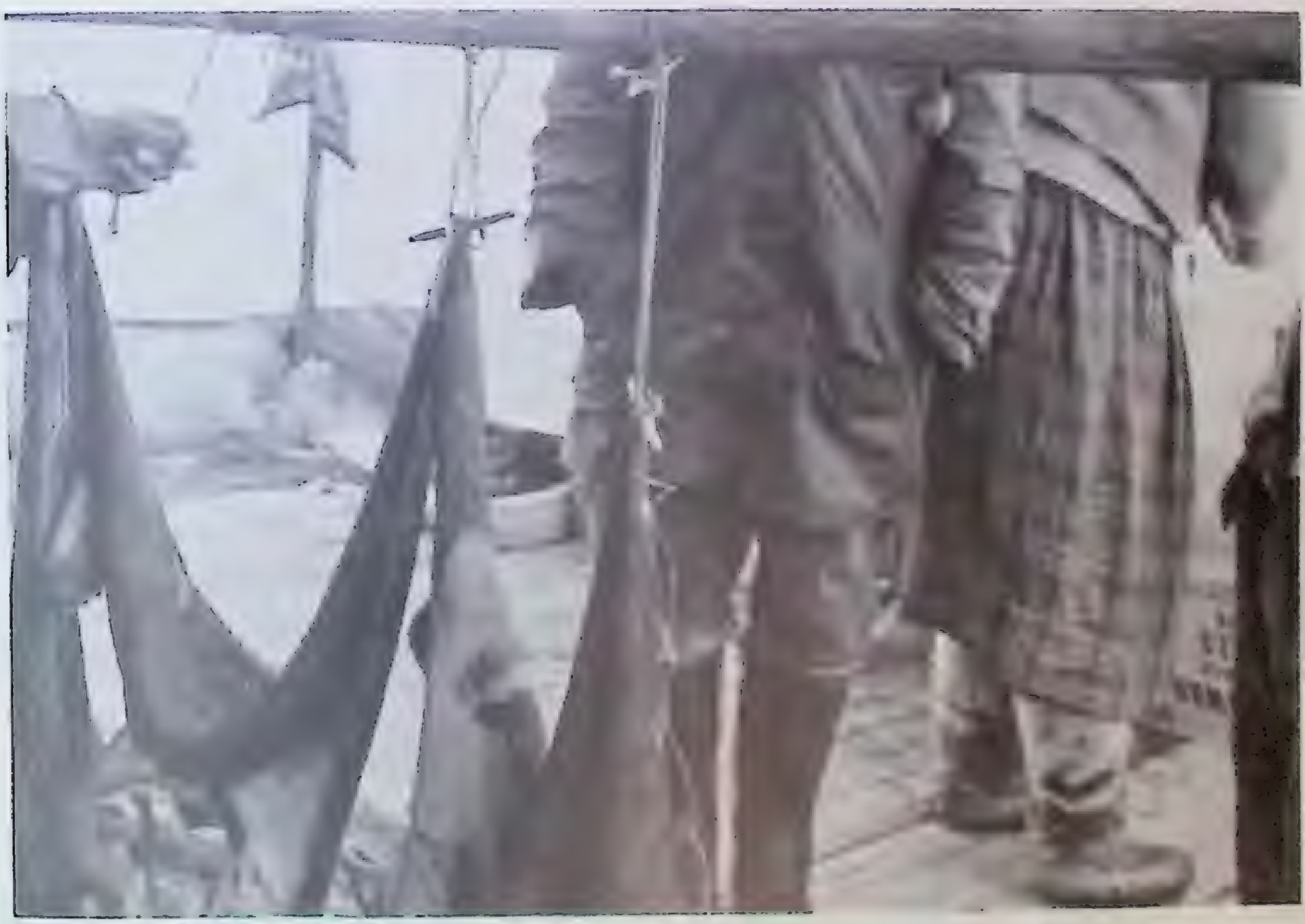
Cover skins hoisted to be cut preparatory to sewing.

PLATE 25



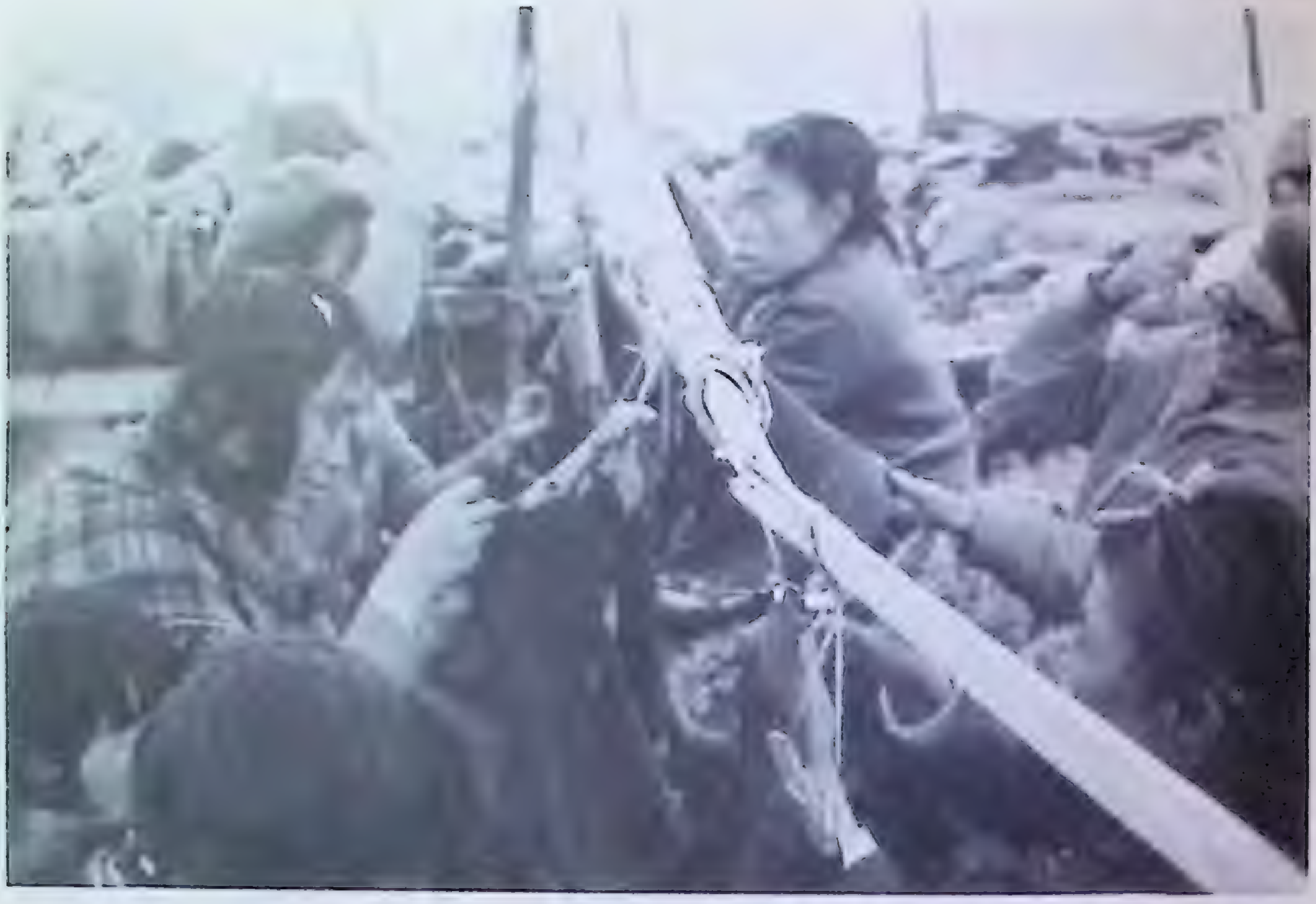
Chewing the edges of the cover skins.

PLATE 26



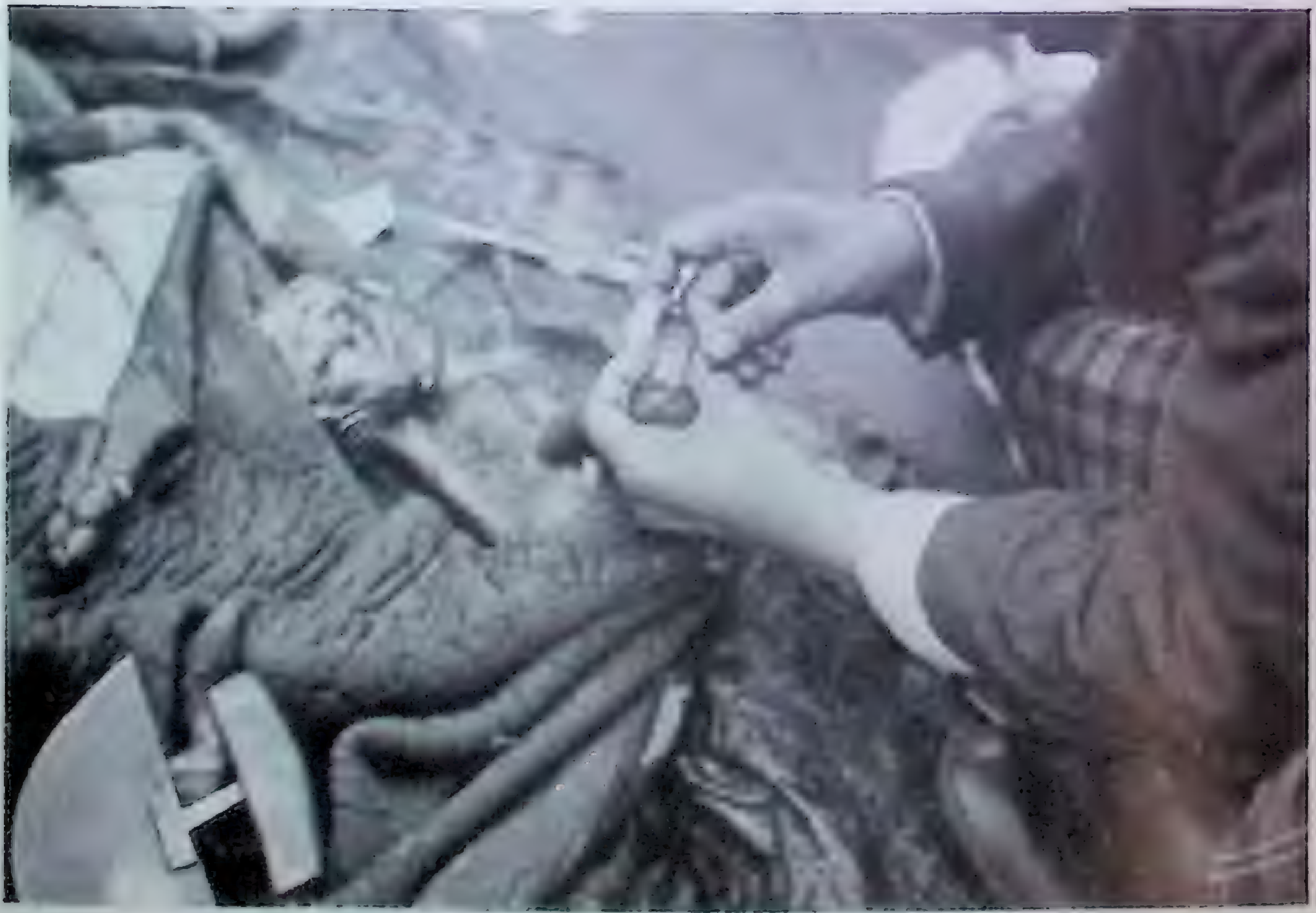
Skins suspended ready to be sewn together.

PLATE 27



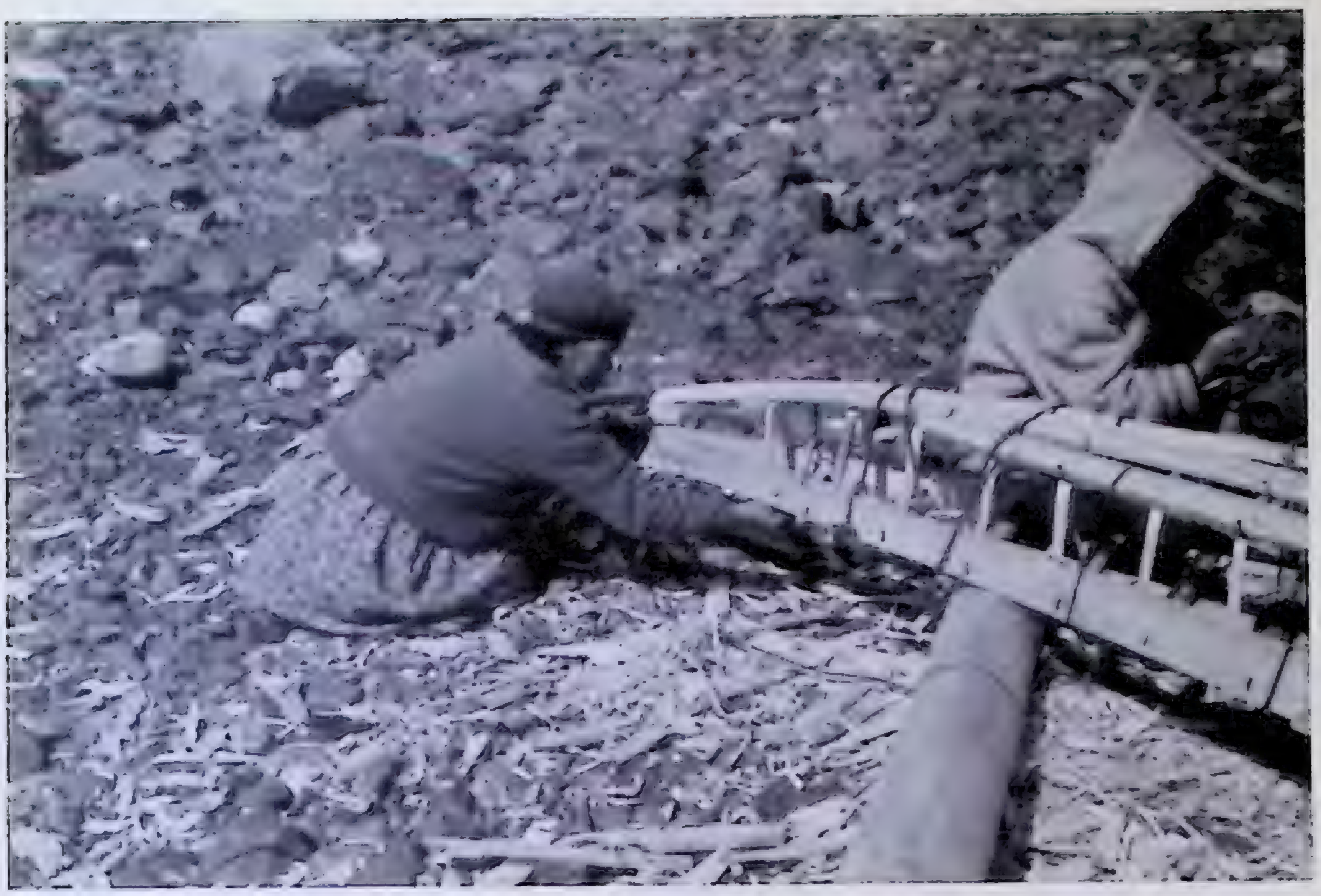
Sewing the skins to cover the bottom of the kayak.

PLATE 28



Patching a bullet-hole.

PLATE 29

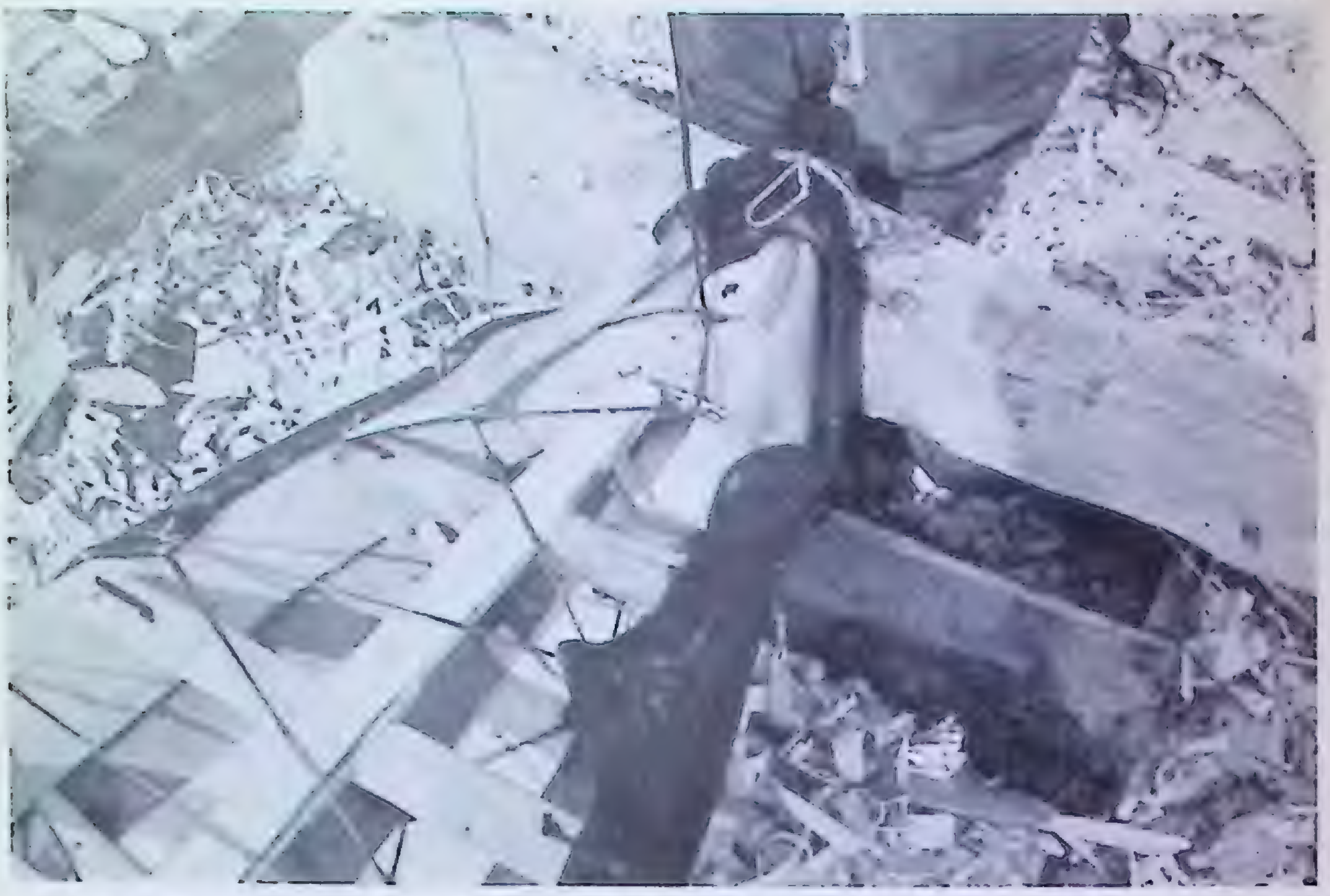


Mary (E9-50) measuring the bow before cutting and sewing the nose boot of the skin cover.

PLATE 30

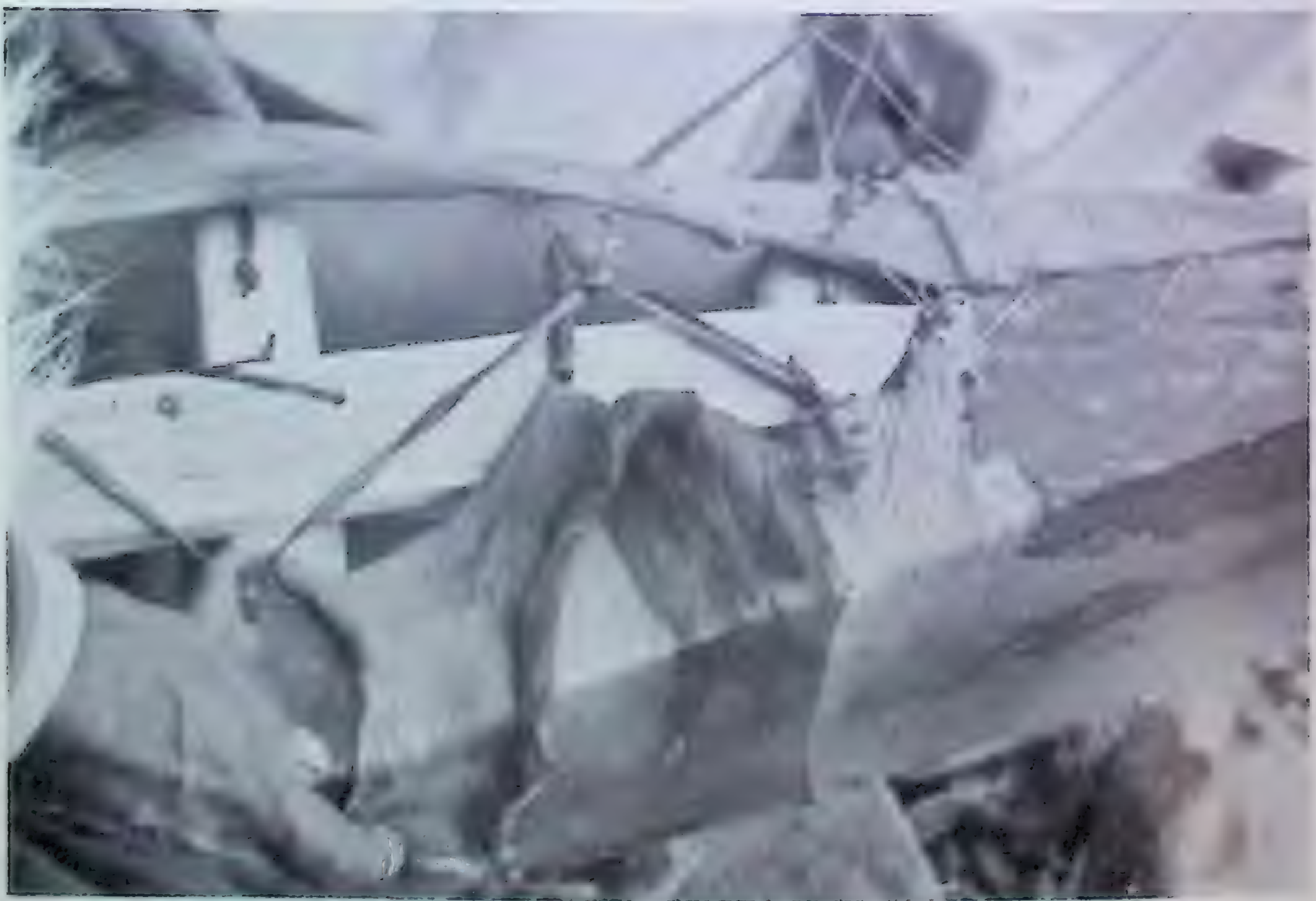
Measuring the skin cover in preparation for the nose boot.

PLATE 31



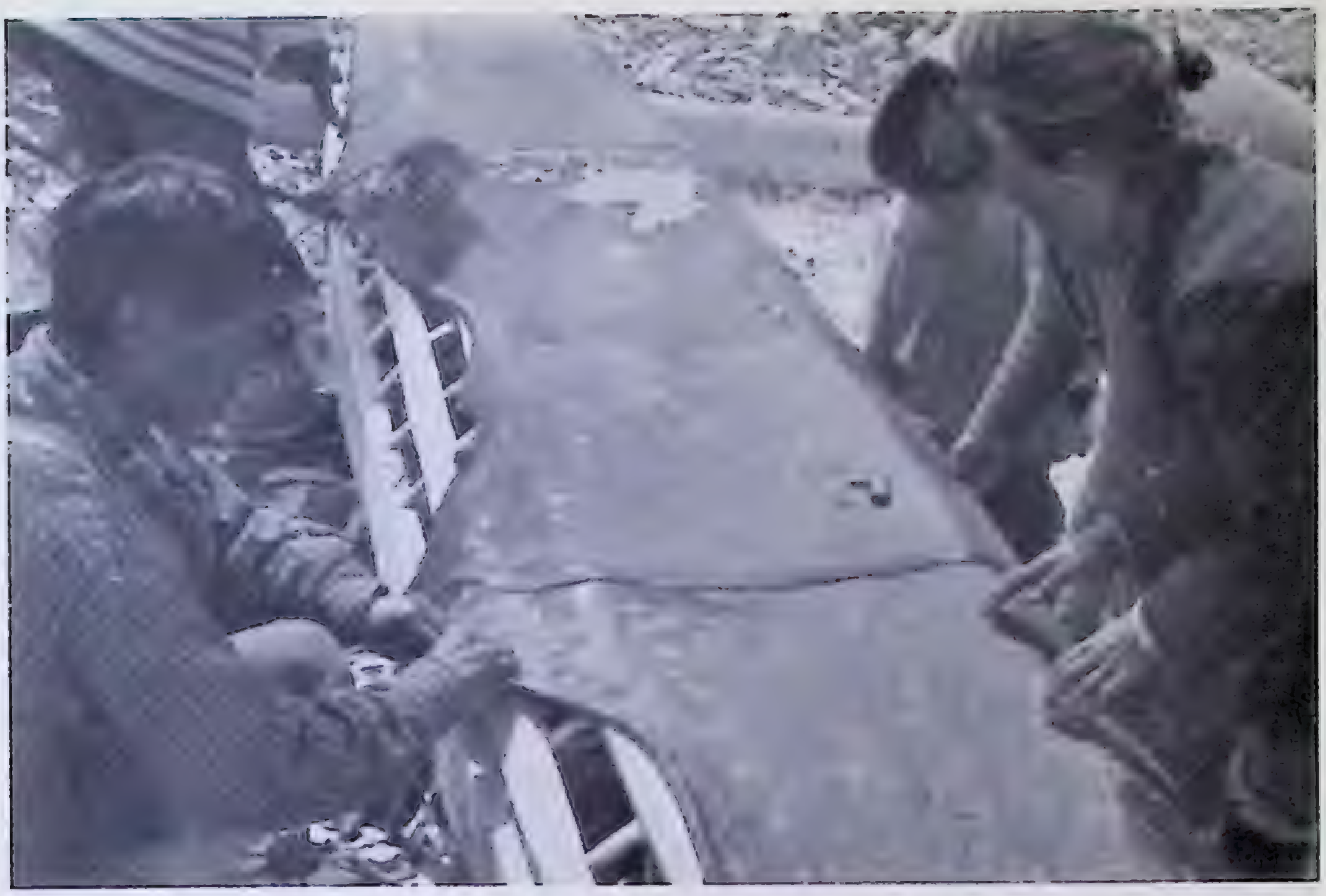
Sinew loops in the cover at the stern facilitate stretching and make overlap possible for a water-tight seam.

PLATE 32



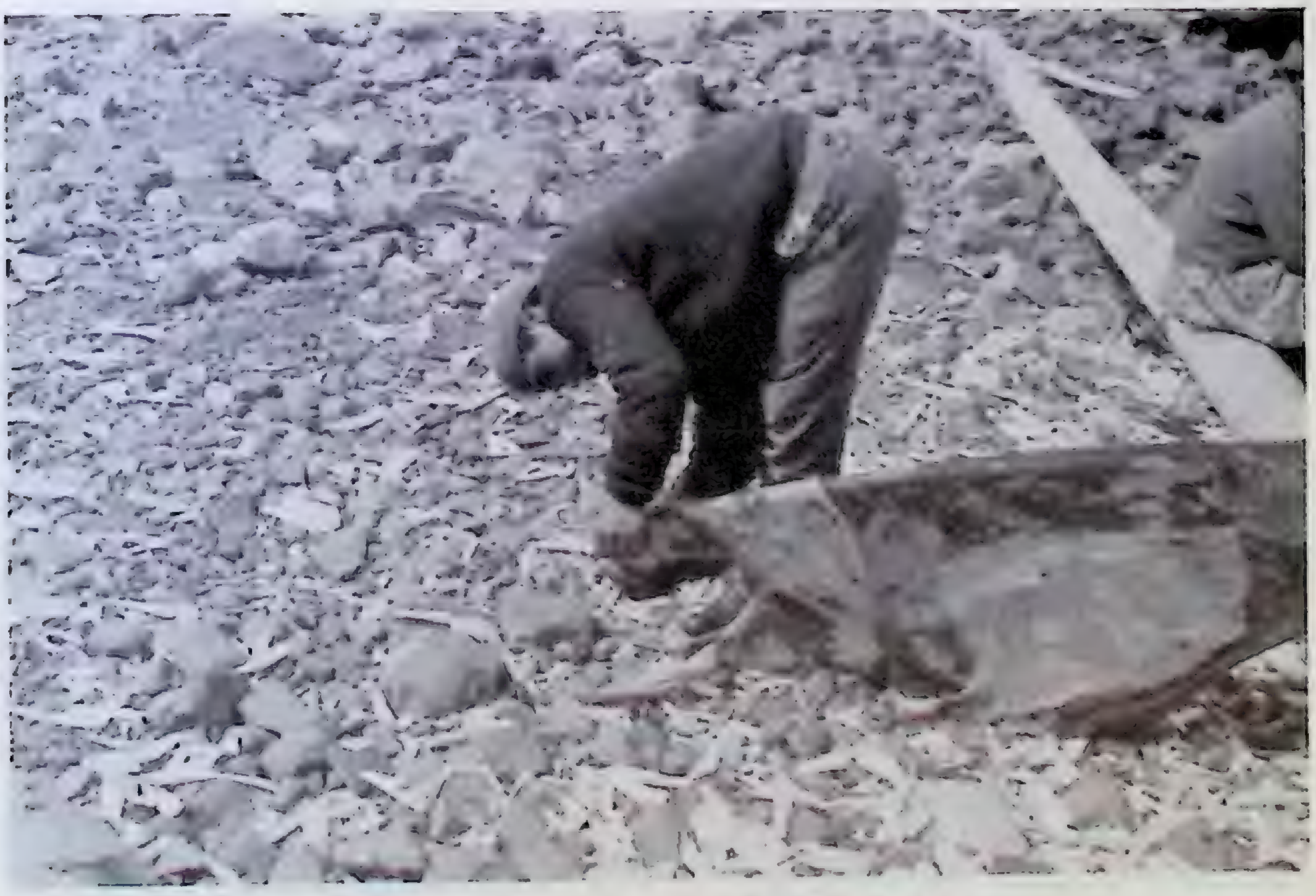
Sinew loop used in covering bow.

PLATE 33



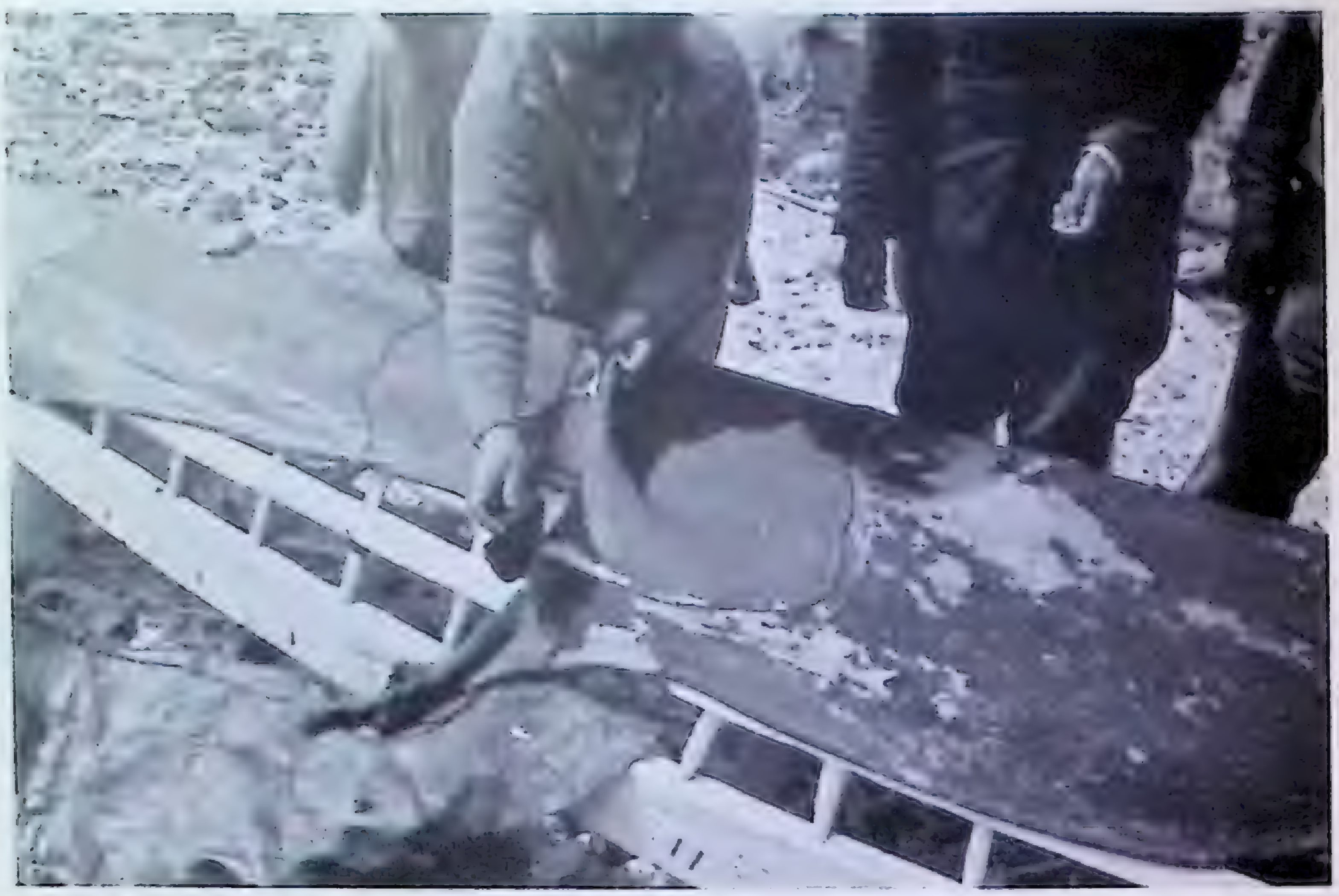
Spreading the cover on the completed frame.

PLATE 34



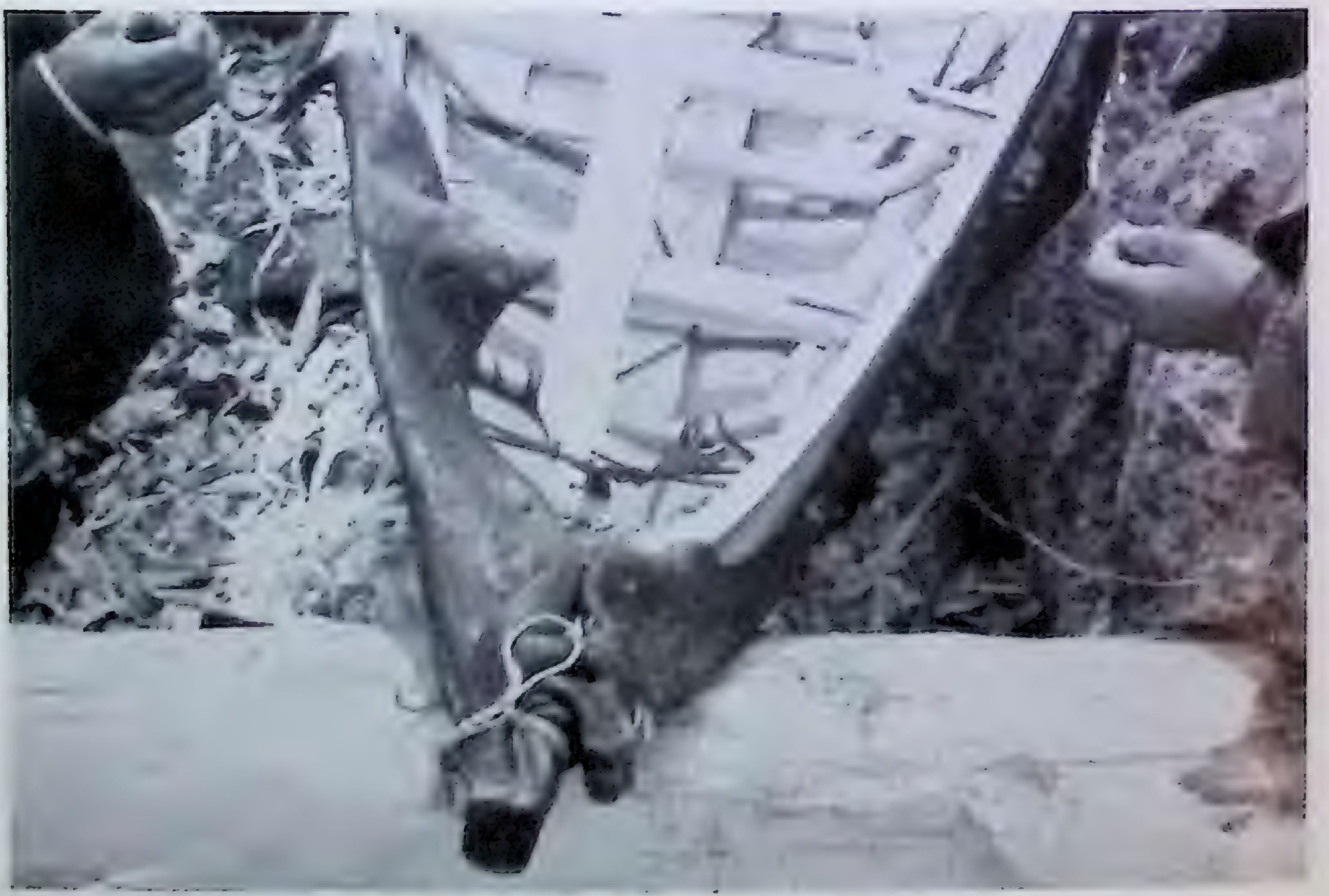
Samwillie fitting the nose boot on the bow.

PLATE 35



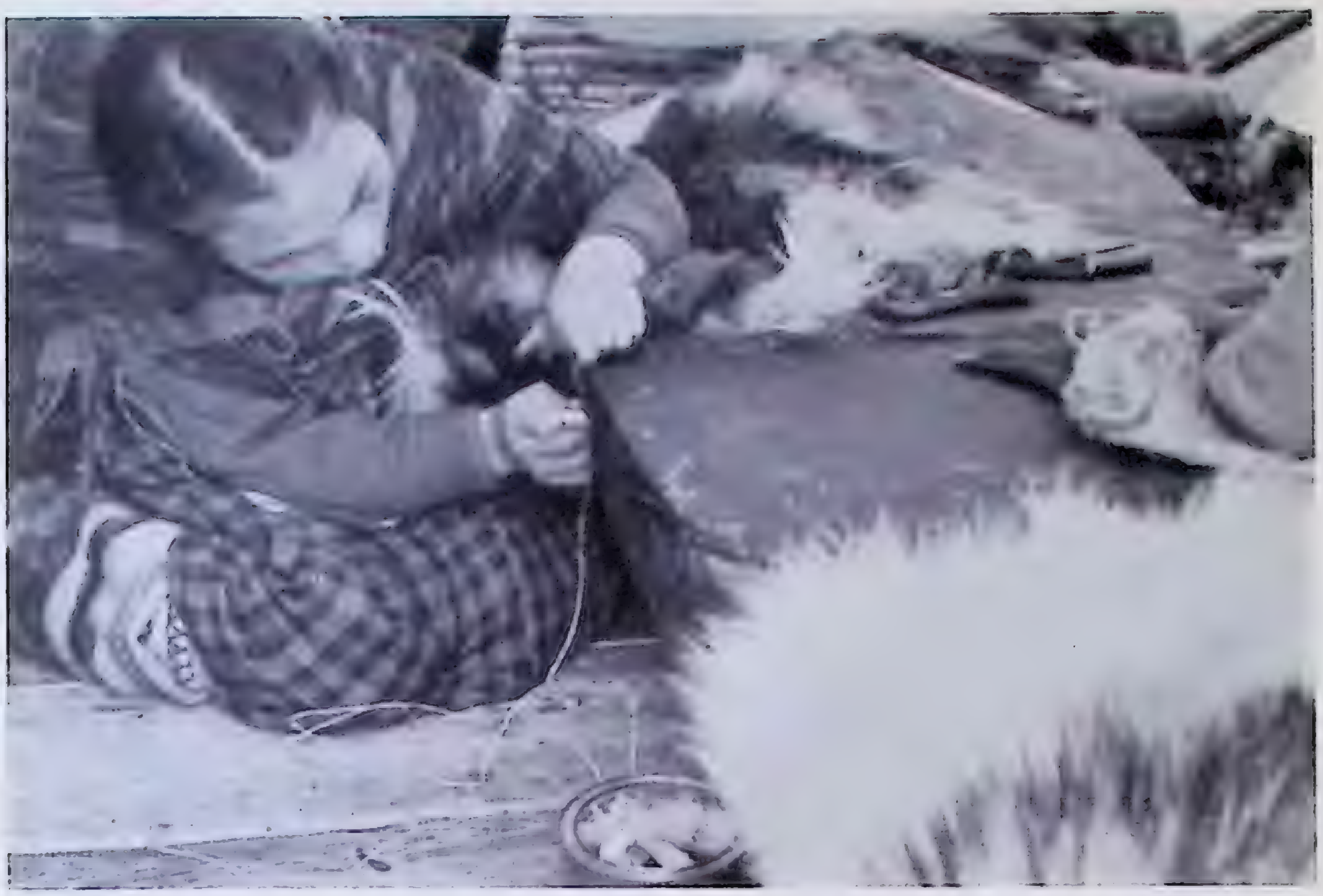
Mary cuts out arm holes and trims the skin before stretching.

PLATE 36



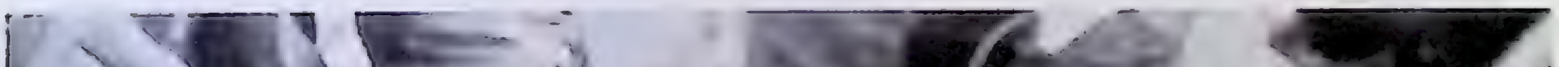
Method of securing cover to frame at stern post.

PLATE 37



Sarah (E9-57) sews deck cover skins. Dog skins on kayak protects clothing.

PLATE 38



Lashing the cockpit to the cover

PLATE 39

Putting on the deck lines.

PLATE 40

Samwillie making the paddle.

APPENDIX

TIME STUDY

The following list gives approximate times involved in the manufacture and assembly of the several components of the *pacalik* described in the text. The term 'approximate' is appropriate, for the Islanders were not always prompt in informing the writer when work was about to begin, and on the last day of the work when virtually the whole camp was rushing to complete the project, it proved impossible to keep an accurate record of the time required to make and install each member. For some parts, then, the record is presented in detail; for others several operations are lumped together. With these limitations in mind, note the time expenditures as follows:

	hours
Gather wood (3 days at 10 hours per day)	30.0
Seal hunt (3 days at 8 hours per day)	24.0
Make gunwales (x 2)	11.1
Make deck braces (x 22)	14.2
Install and tie deck braces	19.9
Make, install deck stringers (x 3)	9.0
Make hull ribs (x 33)	16.2
Install ribs	14.2
Make, install all bottom stringers (x 7), plane and oil assembly	35.5
Make cockpit (x 2)	20.8
Flense seals (15 skins at 20 mins. per skin)	5.0
Scrape skins (x 15)	21.8
Make sealskin bag	1.7
Cut sealskin lines	2.6
Prepare sinew, make thread	30.8
Re-scrape skins (x 15)	5.8
Chew skins (x 15)	7.4
Sew bottom cover, make nose boot, etc.	30.1
Apply bottom cover	5.6
Apply deck skins	13.3
Install *paa*, deck lines, patch cover	8.0
Make paddles	9.6
TOTAL HOURS	336.6

DETAILED DESCRIPTIONS OF PLATES

1. The scene is Kataapik. The worker is Mina Oppik (E9-20), the wife of the kayak builder, Samwillie A?aaluk (E9-19). Mina is working in the 'dirty work' corner of her tent. She is scraping skins with an *ulu* stretched over her *puruutik* or scraping board. Note the dried meat hanging in the upper right and the bannock piled on a plate behind her.
2. The beach in front of the Kataapik camp. In the foreground are the roughly trimmed gunwales (the stern is nearest the camera) which have just been split in two with the axe that leans against the gunwales to the left. The outer cortex of the driftwood log shows on the gunwale to the left. In the background is Johnassie Manomi (E9-56) who works on the cockpit of the kayak, also hewn from driftwood.
3. Samwillie using a hunting knife to trim the newly finished gunwales. In the background are the tents of the other households of the camp with their kayaks on stands yet to be re-covered. To the left is Joe Katuk (E9-544) who looks on. He ran errands during the work. In the foreground are Samwillie's sled and rifle, close at hand in the event that seal are sighted in the inlet to the harbour which is to his back. In the upper right, ice still covers the water.
4. The finished shape of the stern post, the stern portion of the gunwales, and the way in which they are joined with type 'C' ties are shown, as well as the ties joining the rear deck braces to the gunwales and the position of the rear deck stringer relative to the stern post.

5. The kayak builder Samwillie (E9-19) assisted by Lucassie Qitusuk (E9-51) (on the left) places the deck braces into slots cut into the inside face of the gunwales. Lucassie cuts braces to size as Samwillie spaces them on the craft frame. In the foreground is the forward deck stringer being formed to follow the rising contour of the cockpit support braces. It is first placed leaning against a rock, and then weighted down with rocks to bow it. Behind Samwillie is his tent, to the right of which his own, uncovered, kayak can be seen. The small tent to the left of his tent is where the cover skins and other materials for the craft are stored. At the extreme left is the tent of Johnassie Manomi (E9-24).

6. Johnassie Manomi (E9-56) forms the forward shield of the cockpit. The pan of boiling water is in front of him. The shield is rigged with the string pulley described in the text. He is working in his own tent. To the right is the other shield already formed. Note the wooden piece bound to it to prevent (or reduce) splitting.

7. Johnassie (E9-56) shows us the finished shield ready to be cut down to fit the back panel—not shown.

8. Samwillie (E9-19) assisted by Lucassie Qitusuk (E9-51) places the deck braces into slots cut in the inside walls of the gunwales. Lucassie cuts the braces to size and trims the ends to fit into the slots. Samwillie (on the left) places them in the slots. Behind Lucassie, to the middle-right, are the two lateral stringers on the ground, half formed. Note their curved shape which follows the general form of the hull ribs. To the left and behind Samwillie is one pole of the frame on which the sealskin lines used as lashing material are wound. Some of the lines can be seen.

9. Photo shows the lashings tied around the gunwales to hold them together and tilted in at the bottom; the placement of the rear deck stringer; the position of the medial deck stringer, mortised into the cockpit forward support brace; and the lashings which secure the braces to the gunwales and those which secure the deck stringers to the braces. A cockpit shield (*paa*) from Samwillie's own kayak is used as a model in cutting and fitting the stringer so that the deck stringer butts up against it in front.

10. Note type 'A' ties forward, joining the two gunwales, and about ten inches behind them a type 'C' tie used for the same purpose. Photo also shows the position of the forward deck stringer and the forward deck braces.

11. Note the general contours of the craft when all the deck braces are in place. Samwillie (E9-19), at right, trims the forward deck stringer.

12. Note the inferior details of the type 'B' ties which secure the deck braces to the gunwale, and the inferior details of the type 'D' ties which bind the stringer to the brace. Note also the manner of insertion of the hull ribs into the bottom of the gunwale and the sealskin line used to level them to provide a smooth bottom for the craft.

13. Samwillie (E9-19) and Lucassie (E9-51) (right) insert the hull ribs into the bottom of the gunwales preparatory to forming them. Behind Samwillie is a pot of boiling water in which several of the ribs soak preparatory to bending. The contour of the gunwales is evident in this photo.

14. Samwillie (E9-19) executes the first bend in the hull ribs while Lucassie (E9-51) cuts the first and second hull ribs to proper length to form a smoothly contoured bottom. Note the finished cockpit in the left foreground.

15. The manner in which the ribs are held while forming them is here shown.

16. Note the disposition of the bottom stringers of the craft which form an almost solid bottom, and the manner in which they are secured to the hull ribs using type 'D' lashings. Note the manner in which the bottom stringer is spliced in the middle, and the whiskers of the sealskin cover stretched across the craft by means of sealskin lines at the lower right.

17. Lucassie Telero (E9-117) drills holes in the bottom stringer to facilitate the lashing of the bottom stringer to the hull ribs. Note the manner in which the bottom stringer is temporarily secured to the ribs and gunwales.

18. A closeup view of the continuous 'D' type lashing which secures the bottom stringer to ribs. Note the channels cut in the stringer to recess the lashings.

19. Note details of the type 'C' tie used to secure the bow portion of the bottom stringer to the gunwales. Also notice placement forward of the two lateral stringers.

20. Left front, Johnassie Manomi (E9-18) is boring holes for the insertion of type 'C' ties linking the bottom and lateral stringers to the gunwales in the stern. At left centre are Samwillie (E9-19) and Johnassie Manomi (E9-56) who are placing the lateral stringers on the craft. At right is Lucassie Telero (E9-117) who is preparing lashings. Note contour of the ribs from the stern.

21. Isaac Amituk (E9-1), brother to Samwillie (E9-19), uses type 'C' ties to link bottom stringer to the later stringers, and these in turn to the gunwales at the rear of the craft.

22. Shows a type 'C' tie used to link the lateral stringer to the gunwales amidships.

23. Note the placement of the stringers and the 'support wedge' on the craft. At left is Johnassie Manomi (E9-24). On the right side of the craft, leaning on it, is Isaac (E9-1) and behind is Samwillie (E9-19). At the bow installing the support wedge is Johnassie (E9-56).

24. The cover skins are hoisted to the ridge pole of the tent to be cut preparatory to sewing. Left to right are Maggie Tukatuk (E9-165), the daughter of E9-51; Sarah Unganak (E9-57), the wife of E9-56 and sister to E9-19, Mary Qatsialu (E9-50), the mother of E9-51, cutting the skin; Joe Katuk (E9-544), the grandson of E9-50; and Mina Oppik (E9-20), the wife of E9-19, holding the line raising the skins.

25. The women are seen chewing the edges of the cover skins. Nearest the camera is Mina Oppik (E9-2), the wife of E9-1. Behind her is Mina Oppik (E9-20), the wife of E9-19, and behind her (that's right) Mina Oppik (E9-52), the sister of E9-51 and wife to E9-24.

26. The cover skins for the bottom of the kayak are shown suspended from a kayak paddle tied between the uprights supporting the ridge poles of Samwillie's (E9-19) tent. Skins are now ready to be sewed together.

27. Women sew the cover skins for the bottom of the kayak. Front to rear are, on the left, Maggie (E9-165); Annie Akpaqatuk (E9-580), 10-year-old daughter of E9-1; Mina (E9-52); Mina (E9-20). On the right are Mina (E9-2), Mary (E9-50), and Sarah (E9-57). Note the spliced (and now broken) kayak paddle from which the cover skins are suspended.

28. Here a patch is being applied to a bullet hole in the cover skin by Mina (E9-2).

29. Mary (E9-50) measures length and girth of the bow before cutting and sewing the nose boot of the skin cover. At right is Johnassie (E9-18) who prepares wooden plugs to insert in the holes made in the gunwale for the insertion of the deck lines.

30. Isaac (E9-1) and Mary (E9-50) measure skin cover in preparation of the nose boot.

31. Skin cover is being applied to the completed kayak frame. Picture shows the sinew loops inserted in the skin cover at the stern to facilitate the stretching of the cover. Note how use of loops makes it possible to have the skins overlap, thus producing a water-tight seam.

32. Shows sinew loop as applied in the bow. Note how one side is sewed to the inside of the skin. The other side will then be pulled over to lap the stitched seam. Hands are Mina's (E9-2).

33. Isaac (E9-1) on the left and Mina (E9-2), Mina (E9-20) and Joe (E9-544) spread the cover on the completed kayak frame.

34. Samwillie (E9-19) fits the nose boot to the bow of the kayak.

35. Mary (E9-50) cuts out arm holes and trims the skin before stretching.

36. Picture shows the method by which skin is secured to the frame at the stern post.

37. Sarah (E9-57) sews the deck cover skins on the kayak inside the tent. Note dog skins placed on top of the deck to protect clothing. In foreground is a can containing blubber to lubricate the sinew thread.

38. Top view of kayak amidships, showing details of lashing cockpit to skin cover. Note manner in which cockpit is secured temporarily to the craft while lashing is being applied. Note also that the skin cover is pulled up inside the cockpit.

39. Top view of covered kayak. Samwillie (E9-19) to the right of the craft and Johnassie (E9-18) inside kayak securing the deck lines to the gunwales. Samwillie feeds the line through the cover and gunwales to Johnassie who ties it off and cuts it.

40. Samwillie (E9-19) makes the paddle for the *pacalik* from a piece of driftwood. At top of the picture is a toy paddle belonging to Samwillie's son. In lower right of picture is the family stove made from an oil drum.

BIBLIOGRAPHY OF CANADIAN ANTHROPOLOGY FOR 1961–62

By T. F. McIlwraith*

Ackerman, Robert E. Culture Contact in the Bering Sea: Birnirk-Punuk Period (in Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America*, John M. Campbell, *ed.*, Dec., 1962, 27–34). Archaeological work on the coast of Alaska, including the important site of S'keliyuk on St. Lawrence Island, indicates an overlap of various traits. It seems probable that future research will make it possible to fit such distinctive cultures as Okvik, Old Bering Sea, Panuk, Birnirk, and Thule into a broad continuum.

Activities of the Ontario Archaeological Society, 1960–1961 (*Ontario History*, LIV (2), June, 1962, p. 136. This summary of the year's activities of the Ontario Archaeological Society gives a lucid description of the work, and some of the achievements, of this group of competent and enthusiastic amateur archaeologists.

Advisory Committee on Northern Development. *Government Activities in the North: 1961*. Ottawa: Department of Northern Affairs and National Resources. 1962. v+154 p., appendices. This is a valuable summary of all branches of government activities in the Arctic. Of greatest interest to anthropologists are the records of work by the departments of Indian Affairs and of National Health and Welfare, and by the Northern Administration Branch and the Northern Co-ordination and Research Centre of the Department of Northern Affairs and National Resources.

American Heritage Editors, Alvin M. Josephy, *ed.* in charge. *The American Heritage Book of Indians*. New York: American Heritage Publishing Co., Inc. 1961. 424 p. This is a well-organized and beautifully illustrated description of the American Indians, combining a picture book with popular text. Though there are few actual errors, the point of view is more of the Indian on the frontier than upon the actual life of the aborigines; this is unfortunate in a most attractive volume for the general reader.

Anderson, J. E. The Development of the Tympanic Plate (Canada, Department of Northern Affairs and National Resources, National Museum of Canada, Bulletin 180, *Contributions to Anthropology, 1960, part 1*, Ottawa, 1962, 143–53). In this scholarly study, the development of the tympanic plate is shown in juvenile skulls from India, combined with an analysis of deviations shown in Indian skulls from an Iroquois ossuary.

———, and C. F. Merbs. A Contribution to the Human Osteology of the Canadian Arctic (University of Toronto, Royal Ontario Museum, Art and Archaeology Division, *Occasional Paper*, 4, 1962, 65–94). With the collection of Eskimo artifacts made by L. A. Learmonth for the Royal Ontario Museum is included skeletal material from thirteen burials on the Boothia Peninsula and Somerset Island. The remains consist of thirteen skulls and three partial infra-cranial skeletons; they are of Thule and Netsilik cultures. The bones are carefully described and compared with material from other parts of the Canadian Arctic. There is a high degree of homogeneity, including little differentiation between Thule and Netsilik specimens.

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* Former Professor of Anthropology and Head of the Department, University of Toronto, who died on March 29, 1964, and did not see his paper in print.

Archaeological Society of Alberta. *Archaeology in Alberta.* [Edmonton.] [n.d.] [1962.] 24 p. The Archaeological Society of Alberta, in conjunction with the University of Alberta, the Glenbow Foundation, and the Research Council of Alberta, held an exhibition of Alberta archaeological material at the University of Alberta in February 1962. This catalogue describes the various case displays which explain many of the basic findings of anthropology, as well as problems and findings in the provincial field. Much credit is due the society, and particularly the organizer of the exhibition, Dr. Brian Hitchon, who is presumably responsible for this pamphlet.

Ayre, Robert. *Sketco the Raven.* Toronto: Macmillan Company of Canada. 1961. [vii,]+183 p. This volume comprises a selection of Raven myths of the northwest coast Indians, culled from published sources and rewritten in popular style for the general reader.

Baird, Ron. Man with a Vision (*The Beaver*, spring, 1962, 4–10). This is an appreciative account of George Clutesi, a West Coast Indian artist, with illustrations of his paintings.

Balikci, Asen. Some Acculturative Trends Among the Eastern Canadian Eskimos (*Akten des XXXIV Internationalen Amerikanistenkongresses, Wien, 1960,* Wien, 1962, 504–13). The author describes changes in socio-economic life, and in certain aspects of religion, that have occurred in three areas of the Eastern Arctic, namely, Pelly Bay, Povungnituk, and Great Whale River. The pattern of acculturation has differed in each area; a study of the reasons for these differences suggests the possibility of the formulation of a general pattern of Eskimo adjustment.

Barbeau, Marius. Dialectes hurons-iroquois (*Revue d'Histoire de l'Amérique française,* XVI(2), Sept., 1962, 178–83). In the description of Cartier's voyages, published in 1542, are two vocabularies of the Indians of the St. Lawrence, probably recorded in France from captives. One of these appears to be a Mohawk dialect, the other a Huron. The author describes the present position of Iroquoian linguistic studies, a far cry from these earliest transcriptions.

——Dialectes hurons-iroquois (*Akten des XXXIV Internationalen Amerikanistenkongresses, Wien, 1960,* Wien, 1962, 739–42). Apart from a change in the last sentence, this article is identical with the one just cited. There is no indication which should be considered the prior publication.

Bastian, Tyler. Trace Element and Metallographic Studies of Prehistoric Copper Artifacts in North America: A Review (*Lake Superior Copper and the Indians: Miscellaneous Studies of Great Lakes Prehistory,* **James B. Griffin,** *ed.*, Museum of Anthropology, University of Michigan, *Anthropological Papers,* No. 17, Ann Arbor, 1961, 151–75). The author describes the use of trace elements of other minerals in copper artifacts as a means of locating the source of the copper, and summarizes some of the results achieved.

Bereza, Leo. The Changing Pattern (*North,* IX (1), Jan.-Feb., 1962, 12–14). A brief description of the establishment of two new industries, commercial char-fishing and logging, on Ungava Bay.

Bergsland, Knut, and **Hans Vogt.** On the Validity of Glottochronology (*Current Anthropology,* III (2), April, 1962, 115–58). This is an important article in which the authors question one of the basic principles of glottochronology, namely, the relatively constant rate of linguistic change. Their paper, together with comments from a number of experts to whom it was submitted, comprises a broad evaluation of the subject. Eskimo is one of the languages used for analysis.

Borden, Charles E. West Coast Crossties with Alaska (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* **John M. Campbell,** *ed.*, Dec., 1962, 9–19).

Archaeological investigations in the Fraser valley and elsewhere in southern British Columbia prove the antiquity of many elements of Northwest Coast Indian cultures and, furthermore, prove also that there were both local developments and influences from the south and east. Many of these trends antedated the development of Eskimo specializations; thus the recognizable Eskimo influence was only one aspect of British Columbia prehistory and was associated with culture spread *to* as well as *from* the Eskimo.

BROWN, DEE, *selector. Pawnee, Blackfoot and Cheyenne: History and Folklore of the Plains from the Writings of George Bird Grinnell.* New York: Charles Scribner's Sons. 1961. xiii+301 p. In 1870 Grinnell, then a twenty-one-year-old Yale graduate, began his studies of the Plains tribes. He wrote voluminously, describing rituals and other activities in which he participated, and recorded myths as he heard them from Indians whose aboriginal culture was still a living reality. Brown has chosen selections from his writings to present a vivid picture of these tribes eighty years ago and, incidentally, to illustrate Grinnell's place as an important early ethnologist.

BURNS, FLORA HAMILTON. Emily Carr and the Newcombe Collection (*The Beaver*, summer, 1962, 27–35). The British Columbia Archives recently acquired an extensive collection of Indian articles that had belonged to the late W. A. Newcombe, as well as one hundred and twenty-three paintings by Emily Carr. Many of these are of her early work.

BUTLER, B. ROBERT, with an appendix by EARL H. SWANSON, JR. *The Old Cordillera Culture in the Pacific Northwest.* (Idaho State College Museum, *Occasional Papers*, No. 5, EARL H. SWANSON and SUE MEYER, *eds.*) Pocatello: Idaho State College Museum. 1961. i+111 p. In this theoretical essay, the author postulates the existence of a culture dependent upon hunting, fishing, and collecting, which spread from the Cordilleras about 12,000 years ago into the Pacific northwest, gradually breaking up into regional specializations based upon ecological factors.

BYERS, DOUGLAS S. New England and the Arctic (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* JOHN M. CAMPBELL, *ed.*, Dec., 1962, 143–53). Although specimens from the Archaic and other early cultures in the Northeast have been recognized for many years as showing similarities to Eskimo artifacts, greater knowledge of the Dorset culture has thrown doubts on its connection with southern types. There has been contact, but genetic relationships are open to question.

CAMPBELL, JOHN M. Cultural Succession at Anaktuvuk Pass, Arctic Alaska (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* JOHN M. CAMPBELL, *ed.*, Dec., 1962, 39–54). Archaeological excavations in the Anaktuvuk Pass areas of the Brook Range, Alaska, have exposed twenty-eight sites comprising six cultural complexes. Several types of artifact show significant resemblances to forms from early periods in Eurasia; others appear to be related to cultures of the Plains and the Great Lakes. It appears probable that the Brooks Range, with abundant herds of large mammals, was an area that attracted hunters and that the diversity of culture, as revealed by archaeology, was the result of successive waves of immigrants rather than of significant development *in situ.*

CANADA: DEPARTMENT OF NATIONAL HEALTH AND WELFARE. *Annual Report for the Fiscal Year Ended March 31, 1961.* Ottawa: Queen's Printer, 1961, 154 p. *Ibid., Annual Report for the Fiscal Year Ended March 31, 1962.* Ottawa: Queen's Printer. 1962. 159 p. These annual reports, of which two became available in 1962, give figures on the medical services including hospitals, clinics, nursing stations, and other facilities provided by the government for Indians and Eskimos. They also provide data on various aspects of vital statistics; of interest to anthropologists is the fact that the Eskimo birth rate in 1960 was 56.2 per thousand, whereas that of Canada as a whole was 26.9.

———: DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES. *Annual Report: Fiscal Year 1960–1961*. Ottawa: Queen's Printer. 1962. 101 p., *Ibid., Annual Report: Fiscal Year 1961–1962*. Ottawa: Queen's Printer. 1962. 104 p. The reports of the Northern Administration Branch in each of these *Annual Reports* give terse factual data on government work in the Arctic. For the anthropologist they are invaluable as permanent records of the opening of schools, of the establishment and development of economic projects, of housing, and of welfare; in fact, of the role of the Administration in the changing life of the Eskimo. The *Report for 1960–1961* contains an article on the history and work of the National Museum of Canada.

CARPENTER, EDMUND. Artists of the North (*Natural History*, LXXI (2), Feb., 1962, 8–13). This is a sensitive description of some aspects of modern Eskimo art, which combines aboriginal elements with new concepts introduced by a Northern Service Officer, James Houston, derived from his studies in Japan.

———Hunters of Savoonga (*Natural History*, LXXI (10), Dec., 1962, 16–27). This is an illustrated description of walrus-hunting by the Eskimo of St. Lawrence Island, Bering Strait, attractively written.

———Ethnological Clues for the Interpretation of Certain Northeastern Archaeological Data (*Pennsylvania Archaeologist*, XXXI (3–4), Dec., 1961, 148–50). On the basis of observations and experiences among Eskimos and Northeastern Indians, the author points out that contemporary practices frequently offer clues to the interpretation of archaeological data.

CATHELIN, JEAN. Les Esquimaux, hommes du futur (*North*, IX (4), July-Aug., 1962, 32–6). In an article reproduced from a French journal, the author describes some modern Eskimo achievements, with their promise for the future.

CHAFE, WALLACE L. Estimates regarding the Present Speakers of North American Indian Languages (*International Journal of American Linguistics*, XXVIII (3), July, 1962, 162–71). This is a census of the number of individuals speaking Indian languages at the present time. In addition to the gross figures, the data are subdivided to show the age categories of the speakers.

CHANG, KWANG-CHIH. A Typology of Settlement and Community Patterns in Some Circumpolar Societies (*Arctic Anthropology*, I (1), 1962, 28–41). The author applies the principles of taxonomy to a classification of types of settlement found among Arctic peoples of Asia and America.

CHARD, CHESTER S. Eskimo Remains from Shalaurova Island, Siberia (*Anthropological Papers of the University of Alaska*, X(1), 1961, 73–6). In this brief note the author summarizes Russian publications describing artifacts from Shalaurova Island, off the Chukchi Peninsula, some of which appear to belong to the Old Bering Sea Culture.

———Maritime Culture in the North Pacific: Age and Origin (*Akten des XXXIV Internationalen Amerikanistenkongresses, Wien, 1960,* Wien, 1962, 279–83). In prehistoric times, a coastal culture, oriented towards the hunting of sea mammals, extended from Japan to California. Its highest development was in Bering Strait; on the basis of temporal and ecological factors, the author suggests that this culture may have arisen in southwest Alaska.

———Russian Source Materials for the Racial History of Northern Eurasia (*Arctic Anthropology*, I(1), 1962, 117–25). The author cites, with a brief summary, thirty-one articles in Russian with data on the physical characteristics of the peoples of Siberia.

——, ed. COWA. *Surveys and Bibliographies: Northern Asia, Area 18, No. II, 1960.* Cambridge: Council for Old World Archaeology. 1961. 16 p. This valuable bibliography and summary of articles on archaeology in Siberia give a useful overall picture of recent findings, many of them of importance in respect to the history of circumpolar cultures.

CHILDREN IN THE NORTH. (*The Beaver*, winter, 1962, 40–7). A series of attractive photographs of children, Indian, Eskimo, and white, in the Canadian Arctic.

CHOWN, BRUCE, and MARION LEWIS. The Blood Group and Secretor Genes of the Eskimo on Southampton Island (Canada, Department of Northern Affairs and National Resources, National Museum of Canada, Bulletin 180, *Contributions to Anthropology, 1960, part 1*, Ottawa, 1962, 181–90). The modern Eskimo population of Southampton Island is made up of two main strains, the Aivilik from the west side of Hudson Bay, and the Okamiut from Hudson Strait. Relatively little intermarriage between these two groups has occurred. The blood groups of each were examined, and phenotypes observed. Appreciable differences between the two groups were recorded; it is probable that these are due to drift in the genetic forces involved.

CHOWNING, ANN. Raven Myths in Northwestern North America and Northeastern Asia (*Arctic Anthropology*, I (1), 1962, 1–5). Resemblances between the Raven myths of the Northwest Coast and of the Chukchi, Koryak, and Kamchadal have long been recognized and have been regarded rightly as evidence of cultural diffusion. The author brings forward evidence to support her conclusion that the myths belong to an ancient coastal culture that spread from Asia to Alaska prior to the development of the distinctive Northwest Coast traits, and that, indeed, Raven may be a relatively recent accretion.

Citizenship, Immigration and Ethnic Groups in Canada: A Bibliography of Research, 1959–1961. Ottawa: Department of Citizenship and Immigration, Economic and Social Research Division. 1962. 55 p. This bibliography includes the Indians of Canada as one of the ethnic groups considered. Theses and work in progress are reported, as well as published material.

CLAIRMONT, DONALD H. *Notes on the Drinking Behaviour of the Eskimos and Indians in the Aklavik Area.* (NCRC-62-4.) Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1962. i+13 p. This preliminary report describes drinking patterns among the native peoples of Aklavik, with observations on trends, and the relationship of alcoholism to various types of misdemeanor.

CODERE, HELEN. Kwakiutl (*Perspectives in American Indian Culture Change,* SPICER, EDWARD H., *ed.*, Chicago, University of Chicago Press, 1961, 431–516). Culture changes among the Kwakiutl can be divided into three main periods. Between 1770 and 1849 there was the acquisition of the first European tools and considerable increasing influence from northern tribes. The period 1849 to 1921 marked the rise in importance of the potlatch, of a decline in population, and of friction regarding the white man's laws. In 1921 economic depression became rife, and the following forty years marked the incorporation of the Kwakiutl into the modern Canadian way of life, with only a few traces of the past.

COFFIN, TRISTRAM P., *ed. Indian Tales of North America—An Anthology for the Adult Reader.* (American Folklore Society, Bibliographical and Special Series, vol. XIII.) Philadelphia: American Folklore Society. 1961. xvii+157 p. This is a collection of forty-five myths and tales, chosen from most areas of North America and presented clearly with suitable introductory material. It is a volume which will be of value to students.

COHEN, RONALD. *An Anthropological Survey of Communities in the Mackenzie-Slave Lake Region of Canada* (NCRC-62-3.), Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1962. viii+119 p. This report is based on a survey, made in the summer of 1960, of a number of towns and settlements in the Mackenzie valley, including Fort Providence, Fort Simpson, Fort Norman, Fort Good Hope, Fort Macpherson, Yellowknife, Hay River, and Aklavik-Inuvik. The aim of the study is to give a picture of contemporary conditions in the area, both as a basis for future research and as a source of data on acculturation problems of the Indians, Eskimos, and Métis. The material was obtained by interview, participation, and the use of relevant documentary sources; it is presented clearly and logically; the result, a scientific report of permanent value.

Collins, Henry B. Bering Strait to Greenland (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America*, John M. Campbell, *ed.*, Dec., 1962, 126–39). In this thoughtful essay, the author analyses Eskimo culture traits and history across Arctic America. In the east, he believes that the Dorset culture was derived from the earlier Small-Tool tradition with, presumably, some influences from the south. In the western Arctic the situation is more complex, with local developments and significant influences from Asia, as well as from the south and east.

Dahlberg, Albert A. Preliminary Report of the Dentition Study of Two Isolates of Kodiak Island (*Arctic Anthropology*, I (1), 1962, 115–6). Observations were made on the dentition of some two hundred Kodiak Islanders, together with intensive study of the teeth of two excavated skulls. The findings are given here in summary.

D'Anglure, Bernard Saladin. Découverte de Pétroglyphes X Qajartalik sur l'Île de Qikertaaluk (*North*, IX(6), Nov.–Dec., 1962, 34–9). This brief article describes and illustrates a number of rock carvings in the vicinity of Wakeham Bay, Ungava. They appear to be of considerable antiquity, and the style does not resemble Eskimo art forms of the area.

Day, Gordon M. English-Indian Contacts in New England (*Ethnohistory*, IX (1), winter, 1962, 24–40). In a historical essay in which the author stresses the necessity of understanding the indigenous culture of the coastal tribes if the problems of contact and conflict with the white man are to be understood, the author includes a limited amount of data on tribal identification and location in what is now Quebec.

de Laguna, Frederica. Intemperate Reflections on Arctic and Subarctic Archaeology (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America*, John M. Campbell, *ed.*, Dec., 1962, 164–9). In an essay that is stimulating, thought provoking, scholarly, and witty, the author suggests that modern appraisals on arctic and subarctic archaeology may well share the limitations of earlier findings and that what appear to be final conclusions may prove to be no more than steps in the elucidation of culture history.

Dempsey, Hugh A., *ed.* Final Treaty of Peace (*Alberta Historical Review*, X(1), winter, 1962, 8–16). After the disappearance of the bison, most of the Plains Indians settled reluctantly on reserves. Tribes near the International Border, however, took advantage of the existence of two jurisdictions and carried out intermittent raids. A treaty of peace was ratified in 1887 between the Blood Indians on the one hand, and the Assiniboines and Gros Ventres on the other; this treaty, the last in Canada, was arranged by the Indian Agent, William Pocklington, whose letters form the substance of this article.

Denig, Edwin Thompson. *Five Indian Tribes of the Upper Missouri: Sioux, Arickaras, Assiniboines, Crees, Crows,* edited with an introduction by John C. Ewers. Norman: University of Oklahoma Press. 1961. xxxvii+217 p. Denig was an employee of the American Fur Company who lived on the Upper Missouri from

1833 to 1856. An educated man, he wrote widely about the Indians and planned to prepare a comparative ethnology of the Northern Plains. In 1949 Ewers found a manuscript of Denig's, perhaps planned as part of his proposed study. Several sections of this manuscript have been published separately, but they are reproduced in this volume with footnotes and an introduction by Ewers. This is a valuable description of life on the northern Plains in the middle of the last century.

DESROSIERS, LÉO-PAUL. Les années terribles (*Les Cahiers des Dix*, XXVI, 1961, 55–90). A historian describes conditions in the St. Lawrence valley in the years 1661 to 1665, when there were constant Iroquois raids and threats of war on a large scale.

DEWDNEY, SELWYN, and KENNETH E. KIDD. *Indian Rock Paintings of the Great Lakes.* Toronto: University of Toronto Press for the Quetico Foundation. 1962. viii+127 p. For a number of years Mr. Selwyn Dewdney has been recording Indian rock carvings and paintings in Quetico Park and other parts of northern Ontario. Examples of his findings have been published, but this is the first comprehensive description of one portion of his work, namely, the pictographs. Over one hundred sites have been discovered, and approximately one thousand individual drawings have been traced, photographed, or copied. They are found on cliff faces close to water, almost entirely in the area of the Laurentian Shield; painted with extremely simple tools, they show considerable artistic skill. They are probably a few hundred years old. Dewdney describes, in an attractive style and with beautiful illustrations, incidents of the discovery and recording of the paintings, and KIDD has contributed a scholarly essay on their ethnographic significance.

DOCKSTADER, FREDERICK J. *Indian Art in America: The Arts and Crafts of the North American Indian.* Greenwich, Connecticut; New York Graphic Society, n.d. 224 p. This is a superb collection of photographic reproductions of Indian art. The examples are chosen primarily for aesthetic reasons, proving convincingly the high quality of aboriginal craftsmen from all parts of the continent.

———Kwawhlhal Carvings from Skidegate (*Natural History*, LXXI (9), Nov. 1962, 30–9). As an indirect consequence of contact with whalers, carving in argillite developed among the Haida about 1820, and survived about sixty years. This attractively written popular article describes the art; it is illustrated with beautiful photographs of choice specimens.

DONALDSON, WILLIAM S. Archaeological Research in the Rouge (*Ontario Archaeology*, The Ontario Archaeological Society, Publication No. 6, Series A, No. 5, Toronto, Jan. 1962, 15–21). Twenty-two archaeological sites have been located in the valley of the Rouge River east of Toronto, and five of these have been excavated. The area appears to have been densely populated in Iroquois times, but, in addition, material has been found belonging to the Early Archaic horizon.

———The Short Site: A Preliminary Report (*Ontario Archaeology*, The Ontario Archaeological Society, Publication No. 6, Series A, No. 5, Toronto; Jan. 1962, 1–7). This is a preliminary description of material from what appears to have been a seasonal hunting and fishing station near Bowmanville, Ontario. Two periods are represented, namely, middle Point Peninsula and Iroquoian.

DORÉ, MADELEINE. Bibliographie américaniste (*Journal de la Société des Américanistes*, XLIX, 1960, 135–274).

———Bibliographie américaniste (*Journal de la Société des Américanistes*, L. 1961, 257–377). This is the most comprehensive annual bibliography on the anthropology of North and South America. The entries are divided on the basis of region and of subject matter; this publication is particularly valuable to Canadian anthropologists for its European citations.

DRAKE, ROBERT J., *ed. Mollusks in Archaeology and The Recent* (6, April, 1962, 45–61). Vancouver: Department of Zoology, University of British Columbia. Included in this extensive bibliography of current articles describing animal remains from Recent geological horizons are several of interest to Canadian anthropologists.

Drier, Roy W. Archaeology and Some Metallurgical Investigative Techniques (*Lake Superior Copper and the Indians: Miscellaneous Studies of Great Lakes Prehistory*, James B. Griffin, *ed.*, Museum of Anthropology, University of Michigan, *Anthropological Papers*, No. 17, Ann Arbor, 1961, 134–47). On the basis of chemical and metallurgical analysis, it is shown that implements of the Old Copper culture were made by forging, usually by cold hammering, though there is some evidence of softening by heat.

——The Michigan College of Mining and Technology Isle Royale Excavations, 1953–1954 (*Lake Superior Copper and the Indians: Miscellaneous Studies of Great Lakes Prehistory*, James B. Griffin, *ed.*, Museum of Anthropology, University of Michigan, *Anthropological Papers*, No. 17, Ann Arbor, 1961, 1–7). This is a brief description of the excavations on Isle Royale by the Michigan College of Mining and Technology.

Duncan, Kenneth. The Angnasheotik: An Account of the Invention of a Spiritual Entity Among the Ungava Eskimos (*Arctic*, XV(4), Dec., 1962, 289–94). As a result of culture contact, the Eskimos of the Fort Chimo area of northern Quebec have developed a belief in a supernatural being who endeavours to seduce women, and who is vaguely believed to be the ghost of a white man.

Dundes, Alan. Earth-Diver: Creation of the Mythopoeic Male (*American Anthropologist*, LXIV (5, part 1), Oct., 1962, 1032–51). The author analyses the widespread Earth Diver myth in psychological and psychoanalytic terms.

Dunning, R. W. An Aspect of Recent Eskimo Polygyny and Wife-Lending in the Eastern Arctic (*Human Organization*, XXI (1), spring, 1962, 17–20). Before the breakdown of Eskimo culture as a result of extensive Euro-Canadian contact, polygyny was usually limited to Eskimos who had attained a status position on account of their skill as hunters. Prestige based on this factor declined, but polygyny continued in some areas through the common-law marriages of white traders and others with Eskimo women, whose husbands in a number of cases took second wives.

——A Note on Adoption Among the Southampton Island Eskimo (*Man*. LXII, Nov., 1962, 163–7). The incidence of adoption among the Eskimos of Southampton Island appears to be less high than formerly. The author makes a careful study of the reasons for every case of adoption and concludes that the element of prestige is evident, in addition to the usually recognized factors of demography and social obligations.

——Some Aspects of Governmental Indian Policy and Administration (*Anthropologica*, IV (2), 1962, 209–31). In a thought-provoking essay the author points out that the policy of Indian wardship and the reservation system is completely out of line with current social thinking. He advocates drastic changes, including the elimination of Indian agents.

Elmendorf, William W. Lexical Innovation and Persistence in Four Salish Dialects (*International Journal of American Linguistics*, XXVIII (2), Apr., 1962 85–96). As part of a comprehensive study of the Coast Salish languages, four dialects from southern British Columbia and northern Washington are analysed, with particular emphasis on questions of acceptance or retention or both.

Emerson, J. N. Cahiagué, 1961 (*Ontario History*, LIV (2), June 1962, 134–36) Professor Emerson, Director of the University of Toronto Archaeological Field School, describes its activities during the 1961 session. Though primarily oriented towards education rather than research, considerable archaeological work was carried out at the site near Warminster, Ontario, providing further evidence in support of the thesis that it was the village of Cahiagué, where Champlain spent the winter of 1615.

———, *ed.* New Pages of Prehistory, 1961 (*Ontario History*, LIV (2), June, 1962, 121–36). In his introduction to this annual bibliography, the author points out continuing research projects in Ontario archaeology, as well as a new emphasis on ethnohistorical studies. Each of the articles in Emerson's list is cited in this bibliography under the author's name.

Fenton, William N. "This Island, the World on the Turtle's Back" (*Journal of American Folklore*, LXXV(298), Oct.–Dec., 1962, 283–300). The basic cosmological myth of the Iroquois describes the descent of a woman from the sky land to a limitless expanse of water where she is supported by birds until the formation of the world, which rests on a turtle's back. In this scholarly essay, the author points out how the three main elements in this myth coincide with significant Iroquois concepts and serve to explain the survival of much of their culture in spite of more than three hundred years of contact with the white man.

Ferguson, J. D. *The Human Ecology and Social Economic Change in the Community of Tuktoyaktuk, N.W.T.* (NCRC-61-2.) Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1961. [vii]+80+ix p. Tuktoyaktuk is an Eskimo settlement on the shore of Beaufort Sea, in the eastern part of the Mackenzie River Delta. The author describes life in the community on the basis of field-work in 1957. This comprehensive and scholarly study gives data on economic, social, and political institutions, with particular reference to culture change.

Flannery, Regina. Infancy and Childhood Among the Indians of the East Coast of James Bay (*Anthropos*, LVII (3–6), 1962, 475–82). During field-work in 1937 and 1938, the author collected data on beliefs and practices concerning conception, infancy, and childhood, based on the recollections of middle-aged and older Indians. Clearly presented, the information includes intimate material of a type difficult to obtain.

Forbis, Richard G. The Old Women's Buffalo Jump, Alberta (Canada, Department of Northern Affairs and National Resources, National Museum of Canada, Bulletin 180, *Contributions to Anthropology, 1960, part 1*, Ottawa, 1962, 56–123). Although several of the early explorers on the Plains mentioned that the Indians carefully drove large numbers of bison towards a cliff and then stampeded them over it, no white man seems to have seen a 'kill' in action, nor has much archaeological work been done on such sites. The author has combed the literature for early references and describes the techniques as reported; he supplements this with references from ethnological sources. This is, however, preliminary to a detailed account of the excavation of a 'cliff-kill,' fifty miles south of Calgary, which appears to have been used for some 1,500 years, ultimately by the Blackfoot. An important sequence of projectile points and hammerstones was recovered. This is a significant contribution both to archaeology and ethnology on the Plains.

Fraser, Allan M. The Beothuks of Newfoundland (*Canadian Geographical Journal*, LXV(5), Nov., 1962, 156–9). This is a brief, popular description of the Beothuks of Newfoundland, of whom the last survivor died in 1829.

French, David. Types of Organization and Change Among North American Indians (*Akten des XXXIV Internationalen Amerikanistenkongresses, Wien, 1960*, Wien, 1962, 153–60). The author proposes a classification of American Indian tribes on the basis of whether they contain formal social units and a corresponding relatively rigid tribal membership, or whether tribal bonds are fluid in loosely organized units. He believes that cultural adjustment has varied in accordance with these two patterns.

Gibbon, Mary. Trapper's Wife (*The Beaver*, spring, 1962, 38–42). A popular description of the life of a Cree woman living near Moose Factory, with attractive illustrations.

Giddings, J. L. *Kobuk River People.* (University of Alaska Studies of Northern Peoples, No. I.) College, Alaska. 1961. 159 p. On the basis of information from a few surviving Eskimo with whom discussions were held during archaeological work, extending over several seasons, the author gives what is virtually a reconstruction of life in the last century. The inhabitants of Kobuk are inland Eskimos who occupy a wooded valley away from the sea-coast.

——Onion Portage and Other Flint Sites of the Kobuk River (*Arctic Anthropology,* I (1), 1962, 6–27). At Onion Portage, on the Kobuk River, Alaska, a stratified site containing a number of microlithic blades as well as obsidian fragments was located. Correlations can be made with coastal cultures, providing both a temporal as well as a relative chronology for this inland site.

——Side-Notched Points Near Bering Strait (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* John M. Campbell, *ed.*, Dec., 1962, 35–8). The discovery of side-notched projectile points near Kotzebue Sound introduces a new element into the complex web of Bering Strait archaeology. They resemble artifacts from the Old Copper Culture of Lake Superior and may prove of major significance as a diagnostic feature of culture spread.

——, and H.-G. Bandi. Archäologische Strandwalluntersuchungen auf Kap Krusenstern, Nordwest-Alaska (*Akten des XXXIV Internationalen Amerikanistenkongresses, Wien, 1960,* Wien, 1962, 292–3). This is a brief, preliminary report on the finding of archaeological material from several Eskimo horizons in beach ridges on Cape Krusenstern.

Gimpel, Charles. Cape Dorset (*The Beaver*, spring, 1962, 28–31). A series of photographs, with expanded captions, of Eskimo activities at Cape Dorset.

Gordon, John. Northern Indians: Their Economic Future (*North,* IX(5), Sept.–Oct., 1962, 28–34). In a thought-provoking and informative article, a senior official of the Indian Affairs Branch sums up the causes of some of the problems facing the Indians of the northern woodlands and the steps being taken to overcome them. Increase in population and decrease in fur prices are basic factors; wage employment in mining and other new industries offers prospects for economic improvement.

Griffin, James B. A Discussion of Prehistoric Similarities and Connections Between the Arctic and Temperate Zones of North America (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* John M. Campbell, *ed.*, Dec., 1962, 154–63). In an overall picture, there is no evidence of significant cultural influences from the Arctic into temperate North America. Nor has it been possible to trace through the Arctic the route by which the tradition of Woodland pottery spread from Siberia. Since the period of the Plano complex, the tendency has been of slight, but recognizable, influences from south to north, rather than the reverse.

——, *ed. Lake Superior Copper and the Indians: Miscellaneous Studies of Great Lakes Prehistory.* (Museum of Anthropology, University of Michigan, *Anthropological Papers,* No. 17.) Ann Arbor: University of Michigan. 1961. ix+220 p. The basis of this volume is a description of an archaeological expedition to Isle Royale, sponsored by the Michigan College of Mining and Technology, but, as the title suggests, it has been broadened to include a number of papers on copper tools and excavations, including several from various parts of Ontario. Griffin's contributions include descriptions of the material recovered from Isle Royale,

with a scholarly historical résumé of earlier investigations and the theories to which they gave rise, followed by an analysis of the cultural place of copper mining in Indian prehistory, supported by data on copper artifacts from Ontario.

———, and George I. Quimby. The McCollum Site, Nipigon District, Ontario (*Lake Superior Copper and the Indians: Miscellaneous Studies of Great Lakes Prehistory*, James B. Griffin, *ed.*, Museum of Anthropology, University of Michigan, *Anthropological Papers*, No. 17, Ann Arbor, 1961, 90–102). A detailed description and analysis are given of a number of artifacts of the Old Copper culture accidentally discovered in the course of bulldozing operations near Lake Nipigon, Ontario. They probably came either from a cache or a grave. The authors include observations on the probable age and distribution of the Old Copper culture.

———, and ——— Prehistoric Copper Pits on the Eastern Side of Lake Superior (*Lake Superior Copper and the Indians: Miscellaneous Studies of Great Lakes Prehistory*, James B. Griffin, *ed.*, Museum of Anthropology, University of Michigan, *Anthropological Papers*, No. 17, Ann Arbor, 1961, 77–82). As a supplementary commentary on archaeological work on Isle Royale, the authors record a small number of copper mining sites on the east side of Lake Superior.

Gunther, Erna. Makah Marriage Patterns and Population Stability (*Akten des XXXIV Internationalen Amerikanistenkongresses, Wien, 1960,* Wien, 1962, 538–45). On the basis of field-work and the study of documentary sources, the author describes the patterns of marriage among the Makah between 1860 and 1960, including the diminishing importance of the seeking of mates among tribes of Vancouver Island.

———*Northwest Coast Indian Art*. Seattle: Seattle World's Fair. 1962. 101 p. Though the core of this volume is the series of reproductions of the superb examples of Northwest Coast art brought together for the Seattle World's Fair, perhaps of greater anthropological importance are the comprehensive introductory chapters. The author has written brilliant and authoritative summaries of the coastal culture as a whole, of the types and format of the art forms and their use, and of historical perspective in the study of the art.

Harington, C. R. A Bear Fable? (*The Beaver*, winter, 1962, 4–7). The author cites Eskimo descriptions of polar bears attacking walrus by hurling blocks of ice on them from a cliff above. Though probably a myth, the repeated accounts may have a basis of fact.

Harp, Elmer, Jr. The Culture History of the Central Barren Grounds (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America*, John M. Campbell, *ed.*, Dec., 1962, 69–75). Archaeological investigations west of Baker Lake revealed forty-six sites which were excavated wholly or in part. They belonged to five complexes, of which two were early Indian and three Eskimo. The meagre remains indicate a small population dependent on caribou hunting; the Barren Lands presumably were always a marginal area to which small groups penetrated from adjacent districts.

H[arrington], M. R. An Iroquois Prophet's Passport (*The Masterkey* XXXVI(1), Jan.–Mar., 1962, 35 p.). Of interest to the ethno-historian is this description of a passport issued in 1802 by the United States government to the Seneca prophet, Handsome Lake.

Helm, June. The Ecological Approach in Anthropology (*The American Journal of Sociology*, LXVII (6), May, 1962, 630–9). In studying non-literate peoples, the author stresses the importance of considering their relation to, and utilization of, their environment, in addition to consideration of social interactions between members of the group.

———*The Lynx Point People: The Dynamics of a Northern Athapaskan Band.* (National Museum of Canada, Bulletin 176.) Ottawa; Department of Northern Affairs and National Resources, 1961. 193 p. Lynx Point is a small Slavey (Athapaskan) community in the vicinity of Fort Simpson, which was studied by the author and a colleague, Teresa Carterette, in 1951–52. Helm describes the daily life of the inhabitants, their economic condition, social structure, and interpersonal relations—a scholarly and valuable contribution to the ethnology of the northeastern Athapaskans. In addition, there is an interesting account of the development of the community itself, Lynx Point being of relatively recent establishment.

———, and NANCY O. LURIE. *The Subsistence Economy of the Dogrib Indians of Lac la Martre in the Mackenzie District of the N.W.T.* (NCRC-61-3.) Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1961. [xiii]+117 p. In this comprehensive study of a Dogrib Northern Athapaskan community, the authors have paid particular attention to the use of animals for food, clothing, and other purposes. This gives the volume a value in the field of ecology as well as providing social and economic data.

HESTER, JAMES J. A Comparative Typology of New World Cultures (*American Anthropologist,* LXIV (5, part 1), Oct., 1962, 1001–15). In this theoretical paper, the author suggests a system of classification into which all types of culture in the New World can be placed.

HICKERSON, HAROLD. Notes on the Post-Contact Origin of the Midewiwin (*Ethnohistory,* IX(4), fall, 1962, 404–23). From a detailed study and evaluation of historical sources, the author concludes that the Midewiwin of the Ojibwa developed during the period of contact; in part this was the indirect consequence of Christian influence, in part to an increasing tribal feeling among the Ojibwa.

———*The Southwestern Chippewa: An Ethnohistorical Study* (American Anthropological Association, Memoir 92). *American Anthropologist,* LXIV (3, part 2), June, 1962. 110 p. Under the term 'Southwestern Chippewa,' the author designates the Chippewa (Ojibwa) occupying the area now comprising most of Wisconsin and Minnesota and a small part of western Ontario. They appear to have first occupied much of this territory during the eighteenth century, displacing the Dakotas. By a comprehensive study of archivistic and other documentary material pertaining to warfare, economics, and political structure, the author concludes that the Chippewa gradually changed from totemically oriented bands to sedentary villages, with a maintenance of strong political cohesion. He argues strongly that the alleged 'atomization' of the southwest Chippewa has been exaggerated and that the extent to which it occurs has no basis in pre-reservation culture.

HOFFMAN, BERNARD G. *Cabot to Cartier: Sources for a Historical Ethnography of Northeastern North America 1497–1550.* Toronto: University of Toronto Press. 1961. xii+287 p. In this comprehensive volume, the author has brought together all available sixteenth century material on the Indians of northeastern America, utilizing cartographic as well as documentary sources. Of particular value are his appraisals of the reliability of early writers and his research on little-known European contacts along the Atlantic seaboard.

HÖHN, E. O. The Names of Economically Important or Conspicuous Mammals and Birds in the Indian Languages of the District of Mackenzie, N.W.T. and in Sarcee (*Arctic* XV(4), Dec., 1962, 299–300). In this article are given the names of a number of species of birds and mammals in Slavey, Kutchin, Hare, Dogrib, Chipewyan, and Sarsi. Apart from its vocabulary value, it throws light on some cultural interests of the northern Athapascans.

HONIGMANN, JOHN J. *Foodways in a Muskeg Community.* (NCRC-62-1.) Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1962. ix+216 p. This is a comprehensive, ethnological study of a Northern Cree community in 1947–48. The author follows the well-established anthropological tradition of recording fully his observations on aspects of social and economic life and supplementing them by data on allowances and income. No attempt is made to reconstruct aboriginal culture; what the author describes is what he saw fifteen years ago, including the manifold interrelations of white man and Cree. A final chapter consists of concrete suggestions for government action to assist in solving problems faced by the Cree, especially in respect to food, a theme which is treated very fully.

———The Pre-Radar Period of the Great Whale River Eskimo (*Akten des XXXIV Internationalen Amerikanistenkongresses, Wien, 1960.* Wien, 1962, 499–503). In 1949 and 1950 the life of the Eskimo of Great Whale River, Quebec, had changed profoundly from aboriginal conditions, but a definite community organization was developing, as a part of the larger Canadian culture.

———, with an appendix by Frances N. Ferguson. *Social Networks in Great Whale River: Notes on an Eskimo, Montagnais-Naskapi, and Euro-Canadian Community.* Department of Northern Affairs and National Resources (National Museum of Canada, Bulletin 178, Anthropological Series 54.) Ottawa; Queen's Printer, 1962. vii+110 p. The author lived at Great Whale River, on the east side of Hudson Bay, during the summers of 1949 and 1950. He describes the structure and activities of the three resident ethnic groups, namely Eskimos, Montagnais-Naskapi Indians, and a small number of Euro-Canadian traders and officials. Each group maintained its independence, though with mutual interactions. Frances Ferguson describes the results of Rorschach tests.

Houston, James. Eskimo Artists (*Geographical Magazine,* XXXIV(11), March, 1962, 639–50). This is an attractively written and illustrated description of stone-block printing, a new art-medium being developed at Cape Dorset.

Hurlbert, Janice. *Age as a Factor in the Social Organization of the Hare Indian of Fort Good Hope, N.W.T.* (NCRC-62-5.) Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1962. v+80 p. In this scholarly and well-written description of the Hare Indians at Fort Good Hope on the Mackenzie River in 1960, the author follows the normal anthropological pattern of describing the environment and the history of the community, and includes a summary of social groups and the seasonal economic cycle. She adds to these points, however, a study of the role played by individuals of different ages, noting, also, this factor in the process of culture change. This worth-while volume concludes with comments on present conditions at Fort Good Hope and suggestions for the future.

Hyde, George E. *Indians of the Woodlands: From Prehistoric Times to 1725.* Norman: University of Oklahoma Press. 1962. xv+295 p. By the utilization of archaeological, ethnohistorical, and folklore material, the author has written, in attractive literary style, a broad description of Indian movements and history east of the Mississippi prior to 1725.

Indian-Eskimo Association of Canada. (III(1), Jan., 1962; III(2), March, 1962; III(3), May, 1962; III(4), Sept., 1962; III(5), Nov., 1962.) The Indian-Eskimo Association publishes this attractive news-sheet five times a year. In addition to describing the work of the Association it includes items of information which are of permanent value as records of Indian and Eskimo activities in a changing world.

[The] Indian News. (V(3), Jan., 1962; V(4), Apr., 1962; VI(1), July, 1962; VI(2), Oct., 1962.) Ottawa: Department of Citizenship and Immigration, Indian Affairs Branch. This is an attractive news-sheet, published quarterly, with topical items about Indians. These issues have notes on Indians in various skilled occupations, including such diverse fields as law and hair-dressing.

Inuktitut, IV. Ottawa: Department of Northern Affairs and National Resources. 23 p. This pamphlet, which seems to be published at irregular intervals, contains short articles in Eskimo, printed in English script; it is intended primarily for the western Arctic. A similar publication, entirely in Eskimo syllabics, is distributed in the eastern Arctic; no. VIII of this series came out in 1962. These are interesting examples of the use of the Eskimo language for written material.

IRVING, LAWRENCE. Stability in Eskimo Naming of Birds on Cumberland Sound, Baffin Island (*Anthropological Papers of the University of Alaska,* X(1), Dec., 1961, 1–12). Two Eskimos from Pangnirtung, Baffin Island, were able to identify and name, from pictures and descriptions, thirty-eight out of forty-two species of local birds. In almost all cases, the terms given corresponded with those recorded by earlier writers, as far back as 1877. Significant resemblances were noted to the names used for the same species by Alaskan Eskimos. In addition to the value of this paper in regard to the stability of terminology and the wide distribution of the same words, it throws light on Eskimo knowledge of birds.

IRVING, WILLIAM N. 1961 Field Work in the Western Brooks Range, Alaska: Preliminary Report (*Arctic Anthropology,* I (1), 1962, 76–83). Early archaeological sites in the western part of the Brooks Range contain artifacts belonging to the Small-Tool tradition, and in the same area are depressions marking houses that barely antedate the historical period. Deposits are not deep, but there is certainly a wide range in age.

———A Provisional Comparison of Some Alaskan and Asian Stone Industries (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* JOHN M. CAMPBELL, *ed.,* Dec., 1962, 55–68). A re-examination of the literature and of archaeological collections indicates that four distinct traditions existed in Alaska between 10000 and 1000 B.C. The fact that none of these can be correlated precisely with Siberian complexes or traits suggests that there were few significant culture spreads between the two continents after the initial movement of man from Asia.

JELINEK, ARTHUR J. An Index of Radiocarbon Dates Associated with Cultural Materials (*Current Anthropology,* III (5), Dec. 1962, 451–77). This index to the dates adduced by the use of radiocarbon techniques on archaeological sites includes a number from various parts of Canada.

JENNESS, DIAMOND. Canada's Debt to the Indians (*Canadian Geographical Journal,* LXV(4), Oct., 1962, 112–17). In a well-written and interesting article, a veteran anthropologist summarizes the important cultural elements taken over from the Indians by the white man. This is a reappraisal of an earlier article by the same author.

———*Eskimo Administration: I. Alaska.* (Arctic Institute of North America, *Technical Paper,* No. 10.) Arctic Institute of North America. 1962. 64 p. This is the first instalment of a projected comprehensive study of administration in Alaska, Canada, and Greenland. The author's approach is historical; he describes government policy and action from 1867 to 1960, takes note of the increasing activity in education, health, and welfare. It is a scholarly document, with conclusions supported by statistical data, and is enlarged in plaçes with more general observations on economic trends.

JOHNSON, WILLIAM D. *An Exploratory Study of Ethnic Relations at Great Whale River.* (NCRC-62-7.) Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1962. ii+21 p. Great Whale River, on the east side of Hudson Bay, comprises three ethnic groups, Indians, Eskimos, and Euro-Canadians. The three form what are virtually independent communities, with only slight interrelations; those between Indians and Eskimos are marked by hostility and a feeling of inferiority on the part of the Indians. This report replaces NCRC-61-5 which has been withdrawn from circulation.

Johnston, Richard B. Another Dugout Canoe from Ontario (*American Antiquity*, XXVIII(1), July, 1962, 95–6). A dugout canoe of unknown age, found embedded in the mud of Rice Lake, Ontario, is thinner and more slender in proportions than examples known to have been made with metal tools. The author postulates that this may be an earlier type.

Jones, H. M. Indian Affairs Branch (Department of Citizenship and Immigration, *Annual Report, Fiscal Year ended March 31, 1961*, Ottawa, Queen's Printer, 1962, 45–108).

——— *Ibid., Annual Report, Fiscal Year ended March 31, 1962*, Ottawa, Queen's Printer, 1962, 25–45, and 62–79). The *Annual Reports* of the Indian Affairs Branch, of which two were published in 1962, provide comprehensive data on Indian vital statistics, education, economics, enfranchisement, and other aspects of the government's role in its responsibilities for Indian administration. Equally valuable are observations on trends and changes in the Indian way of life, arranged according to provinces. These reports furnish basic data of great value to anthropologists.

Jury, Elsie McLeod. Archaeological Work in Huronia (*Ontario History*, LIV (2), June, 1962, 133–34). In 1961 the University of Western Ontario continued archaeological work in Huronia. This included renovations and repairs to the reconstructed Indian village at Midland, historical archaeological work on the military and naval establishments at Penetanguishene, the holding of the annual Summer School of Archaeology near Wyebridge, and excavations at the Quenelle site which may prove to be the Huron village of Carhagouha, visited by Champlain in 1615. The record shows a busy and profitable summer.

Kehoe, Alice B. A Hypothesis on the Origin of Northeastern American Pottery (*Southwestern Journal of Anthropology*, XVIII (1), spring, 1962, 20–9). Although Early Woodland pottery in eastern North America shows close resemblances to Siberian forms, it is difficult to explain how this trait could have spread from Asia. No traces of such elements have been found in archaeological work between Bering Strait and the Great Lakes. The author notes the close resemblances between pottery and grave mounds of western Europe and eastern America, and advances the hypothesis of diffusion, about 2000 B.C., by sailors from Europe in skin boats.

Keithahn, Edward L. Stone Artifacts of Southeastern Alaska (*American Antiquity*, XXVIII (1), July, 1962, 66–77). Metal tools, obtained from the white man, have been used for so long in western North America that no reliable information regarding their use can be obtained from present-day Indians. By extensive experiments, however, the author shows the suitability of aboriginal artifacts for a variety of specific purposes.

Kennedy, Clyde C. Archaic Hunters in the Ottawa Valley (*Ontario History*, LIV (2), June, 1962, 122–8). Excavations on Morrison's Island, Quebec, about four miles from Pembroke, Ontario, have resulted in important discoveries of an early hunting population, who appear to have had contacts with the people of the Old Copper Complex.

Kenyon, Walter. The Second Season of Excavation at Fort Albany (*Ontario History*, LIV (2), June, 1962, 128–32). In 1960 the Royal Ontario Museum, in association with the provincial Department of Travel and Publicity, began the excavation of a fort on Fishing Creek, near the mouth of the Albany River. A second summer's work showed that the site was that of an extensive military establishment, probably the fort built by the English and captured by de Troyes in 1686.

Koon, Levi. The Hunter and the Giant (*The Beaver*, spring, 1962, 16–19). This is a legend, recorded by a Hudson Bay Eskimo and illustrated with his own stone sculptures.

LARSEN, HELGE. The Trail Creek Caves on Seward Peninsula, Alaska (*Akten des XXXIV Internationalen Amerikanistenkongresses, Wien, 1960,* Wien, 1962, 284–91). Excavations in two limestone caves on Trail Creek in the Seward Peninsula, Alaska, showed them to have been occupied, probably as temporary hunting shelters, over an extremely long period. The earliest artifacts are of Denbigh or pre-Denbigh types; the latest are of the eighteenth century.

LAUGHLIN, W. S. Archaeological Investigations on Umnak Island, Aleutians (*Arctic Anthropology,* I (1), 1962, 108–10). As part of a comprehensive archaeological study of the Aleutian Islands, excavations were carried out on Umnak Island at a mound site, first reported on by *Hrdlicka*. Four skeletons were unearthed, as well as many artifacts and a large number of animal bones which will throw light on the faunal association of the settlement.

——Bering Strait to Puget Sound: Dichotomy and Affinity Between Eskimo-Aleuts and American Indians (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* JOHN M. CAMPBELL, *ed.,* Dec., 1962, 113–25). Linguistic, biological, and archaeological evidence all point to the presence of a proto-Eskimo-Aleut population, with Eskimo culture, within the Kachemak, Kodiak, Umnak, Kuskokwim rectangle about 5,000 years ago. It seems probable that the separation of Eskimo-Indian traits took place in this area. There is evidence of an ancient coastal culture along both sides of the north Pacific, the source from which various modern coastal traits are derived.

——Generic Problems and New Evidence in the Anthropology of the Eskimo-Aleut Stock (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* JOHN M. CAMPBELL, *ed.,* Dec., 1962, 100–12). Eskimo studies have been carried out continuously for over four hundred years, and have attracted the cooperation of scholars in many disciplines. The basic question of Eskimo origins has been settled, "they are displaced Asiatics," but new problems have arisen. These include the well-recognized questions of local and sequential culture variations, in which ecological factors are involved.

——, and W. G. REEDER. Aleut-Konyag Prehistory and Ecology: 1961 (*Arctic Anthropology,* I (1), 1962, 104–8). The authors point out that the relatively dense populations of Kodiak Island Eskimos and of eastern Aleuts are the result of ecological factors and that these areas offer unique opportunities for research on questions of Eskimo and Aleut origins and differentiation.

LEECHMAN, DOUGLAS. The Kootenay Canoe (*The Beaver,* spring, 1962, 11–15). The Kootenay canoe of southeastern British Columbia has been known from the days of early explorers, having attracted considerable attention owing to its unique shape: the bottom of the canoe has a projection both fore and aft. It was supposed to have fallen completely out of use in the last century, but the author found three modern examples, which he describes and illustrates with photographs.

LEVESQUE, RENÉ. *Les richesses archéologiques du Québec par la Société d'Archéologie de Sherbrooke: Rapport préliminaire.* Sherbrooke: [La Société d'Archéologie]. 1962. 75 p. This publication is a convincing proof of the enthusiasm and the scholarly activities of la Société d'Archéologie de Sherbrooke, a new organization with a promising future. Descriptions are given of sites in different parts of the province, with illustrations of artifacts excavated, and the cultures to which they belong.

LEVIN, M. G. New Blood Group Data from Siberia (*Arctic Anthropology,* I (1), 1962, 87–92). Data are given on blood grouping among the Eskimos and Chukchi of Siberia. The material was first published in *Sovetskaia Etnografiia* in 1958 and is reprinted here with information obtained since that date.

LIEBOW, ELLIOT, and JOHN TRUDEAU. A Preliminary Study of Acculturation among the Cree Indians of Winisk, Ontario (*Arctic*, XV (3), Sept., 1962, 191–204). Culture contact with the white man's way of life has been taking place at Winisk for more than two hundred years, but the intensity was increased tremendously with the building of a radar base in 1955–57. The authors describe conditions before and after the installation.

LIPS, EVA. Die gegenwärtige Akkulturationssituation der Montagnais-Naskapi-Indianer von Lake St. John, Kanada (*Akten des XXXIV Internationalen Amerikanistenkongresses, Wien, 1960*, Wien, 1962, 514–21). In a thoughtful essay, the author describes the severe problems of the Montagnais-Naskapi hunters of northern Quebec. Various elements of their culture have been affected by non-uniform white influences, sometimes resulting in extremely different cultural adjustment within a single family.

LOTZ, J. R. Pelts to Parkas (*The Beaver*, autumn, 1962, 16–19). This is a well-written, popular description of the manufacture of parkas, a new commercial industry sponsored by the government at Inuvik.

LOWTHER, G. R. An Account of an Archaeological Site on Cape Sparbo, Devon Island (Canada, Department of Northern Affairs and National Resources, National Museum of Canada, Bulletin 180, *Contributions to Anthropology, 1960, part 1*, Ottawa, 1962, 1–19). A site on the north shore of Devon Island was found to contain artifacts of both pre-Dorset and Thule culture, as well as, perhaps, some Dorset material. In this preliminary report, the author describes in detail the pre-Dorset remains, noting certain resemblances to comparable implements in other arctic and subarctic areas.

LURIE, NANCY OESTREICH. Comments on Bernard J. James's Analysis of Ojibwa Acculturation (*American Anthropologist*, LXIV (4), Aug., 1962, 826–33). While agreeing with many of the facts cited by James regarding unfavourable conditions on Ojibwa reservations, the author introduces new material to show that there is a certain amount of continuity in Ojibwa practices.

———The Voice of the American Indian: Report on the American Indian Chicago Conference (*Current Anthropology*, II (5), Dec., 1961, 478–500). The 'Chicago Conference,' as it has been generally termed, was undoubtedly the largest and most significant gathering of Indians from all parts of the United States that has ever taken place. It marks the increasing participation of Indians in their own affairs and of pan-Indian consciousness.

MCFEAT, TOM F. S. *Museum Ethnology and the Algonkian Project*. (National Museum of Canada, *Anthropology Papers*, No. 2.) Ottawa; Department of Northern Affairs and National Resources, 1962. 80 p. This stimulating essay gives an overall picture of the culture of the northeastern Algonkian tribes, with special reference to those elements which have survived to the present day. Its purpose is to show how a long-range museum project, combining field research and the study of specimens, can contribute to an understanding of a group of tribes, both in space and time.

———Two Malecite Family Industries (*Anthropologica*, IV (2), 1962, 233–71). As a background to this study of the making of baskets and barrels by the Malecite of the St. John River in New Brunswick, the author describes their earlier life as centring in settlements along the river, with varying use of the peripheral areas. Today the villages have become stabilized into reserves. Two industries have developed, the effects of which are shown in social as well as economic life. The making of baskets is rooted in Malecite history, even though the use of splints has superseded birch-bark, whereas the manufacture of barrels is a new industry. The role of these two crafts is analysed acutely.

MCGEE, JOHN T. *Cultural Stability and Change Among the Montagnais Indians of the Lake Melville Region of Labrador*. (Catholic University of America, *Anthropological Series*, 19.) Washington: Catholic University of America Press. 1961. viii+159 p. The Northwest River band of Montagnais-Naskapi comprises a relatively isolated group living in the vicinity of Lake Melville, north of Goose Airport, Labrador. In spite of sporadic contact with the white man for generations, these people have retained much of their aboriginal culture and have neither treaty with the government nor reservation. They are exclusively hunters, largely on a subsistence basis, though with some sale of fur. Their way of life has minimized innovations, except of articles which can be incorporated into it. Roman Catholicism was accepted a hundred years ago and has tended to be a conservative factor, limiting contacts with adherents of other faiths.

Macgowan, Kenneth, and Joseph A. Hester, Jr. *Early Man in the New World.* Garden City; Doubleday & Co., Inc., in co-operation with the American Museum of Natural History, 1962, xxiii+333 p. Since this book was first published in 1941, it has been a valuable introductory compendium to the study of the history of the New World and its aboriginal peoples. This new edition, incorporating the work of the last twenty years, brings it up-to-date.

McHugh, William. Archaeological Investigations on Kodiak Island (*Arctic Anthropology*, I (1), 1962, 113–5). This is a brief report on an archaeological reconnaissance on the south shore of Kodiak Island, where a number of house pits were located.

MacNeish, R. S. A Discussion of the Recent Geology and Archaeological Sites in the Northern and Southern Yukon (*Problems of the Pleistocene and Arctic, Volume 2*, Publications of McGill University Museums, McGill University, Montreal, No. 2, 1962, 40–3). In a brief, but cogent article, the author describes correlations between archaeological and geological findings on the Firth River in the northern Yukon, and near Kluane Lake in the southern part of the Territory.

———The Great Lakes to the Barren Lands (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America*, John M. Campbell, *ed.*, Dec., 1962, 140–2). Relationships between the Great Lakes and the Barren Grounds on the basis of archaeological evidence are difficult to trace, largely because of the paucity of evidence from northwestern Ontario and northern Manitoba. The oldest element with southern similarities is represented by points of Plainview type near Great Bear Lake; later finds on the Barren Lands show two traditions, one related to the Arctic Small-Tool complex, and the other inland oriented.

———Recent Finds in the Yukon Territory of Canada (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America*, John M. Campbell, *ed.*, Dec., 1962, 20–6). Archaeological work in the Yukon has revealed two diverse stratigraphic sequences. The author summarized both resemblances and differences between the two, suggesting how they may have arisen in the slow movement of sparse populations into the area.

McNickle, D'Arcy. *The Indian Tribes of the United States: Ethnic and Cultural Survival.* Oxford University Press, under the auspices of the Institute of Race Relations. 1962. 79 p. This is a well-written and well-documented study of cultural survivals among the North American Indians, in the face of the overwhelming impact of the white man and, later, of industrialization. The author notes developments since 1960, including an increasing awareness of Indian consciousness by the Indians themselves.

McPhee, J. A. Training Eskimo Mechanics (*The Beaver*, summer, 1962, 50–1). A brief illustrated description of Eskimo lads in training at Kingston as power plant operators.

Marshall, G. Ruth. The Fletcher Site: Part I; The Fletcher Site: Part II (*Ontario Archaeology*, The Ontario Archaeological Society, Publication No. 6, Series A, No. 5, Toronto, Jan., 1962, 8–14). This report describes the findings of a brief archaeological excavation near Jordan, in the Niagara Peninsula, Ontario. The site, which had been badly looted, appears to have been a Neutral settlement of the historic period.

MASON, RONALD J. The Paleo-Indian Tradition in Eastern North America (*Current Anthropology*, III (3), June, 1962, 227–78). This masterly review article summarizes the present state of knowledge concerning the Paleo-Indian in North America, with special reference to the eastern half of the continent. The author puts forward stimulating hypotheses regarding connections with the more extensive discoveries in the west. Following the usual practice of *Current Anthropology*, the article was submitted to a number of collaborators whose comments are printed in full.

MAXWELL, MOREAU S. The House on the Ruggles (*The Beaver*, autumn, 1962, 20–7). This is a brief description of the excavation on Ellesmere Island of a semi-subterranean house, dating from about the thirteenth century. This is an excellent example of scientific material presented in a readable and attractive manner.

———Pre-Dorset and Dorset Sites in the Vicinity of Lake Harbour, Baffin Island, N.W.T. A Preliminary Report (Canada, Department of Northern Affairs and National Resources, National Museum of Canada, Bulletin 180, *Contributions to Anthropology, 1960, part 1*, Ottawa, 1962, 20–55). Archaeological excavations on Juet Island and adjacent area on Baffin Island revealed eight sites of pre-Dorset or early Dorset culture. The author outlines the topography of the sites, indicating their relative chronology, and describes, in the best scientific manner, the material from each of the locations.

MEADE, E. F. The Mute Ghosts of Cape Mudge (*The Beaver*, autumn, 1962, 34–9). This is a popular account of the history of the Indian villages at Cape Mudge, British Columbia, with some interesting reproductions of early photographs.

MELDGAARD, JÖRGEN. On the Formative Period of the Dorset Culture (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America*, JOHN M. CAMPBELL, *ed.*, Dec., 1962, 92–5). Excavations at Igloolik show the area to have been occupied for almost 4,000 years by people completely adjusted to Arctic life. There is evidence of some local development in tool types over the centuries, but the most significant break in this sequence occurs about 800 B.C. with the emergence of the Dorset culture. The author suggests reasons for believing that this may have originated in some wooded area and points to the interior of Quebec or Labrador as a possible source.

MERBS, CHARLES F., and WILLIAM H. WILSON. Anomalies and Pathologies of the Sadlermiut Eskimo Vertebral Column (Canada, Department of Northern Affairs and National Resources, National Museum of Canada, Bulletin 180, *Contributions to Anthropology, 1960, part 1*, Ottawa, 1962, 154–80). On the basis of the examination of material from 61 adults and 11 children, the authors have analysed pathological and other abnormalities in the vertebral column, as found among skeletons of the extinct Sadlermiut of Southampton and Coats islands.

MOHR, ALBERT. The Place of Jomon Pottery in Assessing Woodland Pottery Origins (*Arctic Anthropology*, I (1), 1962, 98–103). In studying resemblances in ceramics between the Woodland culture of eastern North America and Asiatic forms, various authors have drawn attention to parallels in the Jomon pottery of Japan. The author shows that Jomon was peripheral to mainland Asiatic types and that it is unimportant as a guide to inter-continental influences.

MORGAN, LEWIS HENRY. *League of the Iroquois*, with an introduction by WILLIAM N. FENTON. New York: Corinth Books Inc. 1962. xviii+477 p. This is the fifth reprinting of *The League of the Iroquois*, a proof of its lasting importance. Fenton's scholarly introduction describes the origin of Morgan's work.

Murray, Robert A. A Brief Survey of the Pipes and Smoking Customs of the Indians of the Northern Plains (*Minnesota Archaeologist*, XXIV (1), Jan. 1962, 4–41). In this popular article, the author has brought together a large amount of well-documented and well-organized material on pipe types, methods of manufacture, materials smoked, and tobacco ceremonials among the Plains Indians.

[*The*] *Native Voice*. (XVI (1–12), Jan.–Dec., 1962, Monthly.) Vancouver: Native Voice Publishing Co., 975 Denham St., Vancouver 5. Though somewhat reduced in size from recent years, this monthly newspaper continues to publish articles and items of news written by Indians about Indians. It provides objective material on changing Indian attitudes and activities.

Oliver, Symmes C. Ecology and Cultural Continuity as Contributing Factors in the Social Organization of the Plains Indians (*University of California Publications in American Archaeology and Ethnology*, XVIII (1), 1962, 1–90). Although overall resemblances are found in the late period of Plains culture, when it was dominated by horse-back hunting for bison, there were significant differences in many traits, including social and political structure. The author presents a logical argument for his belief that these differences go back to the ancestral life of different Plains tribes, and he supports his thesis by citing resemblances to customs found among marginal tribes.

Olson, Ronald L. Tlingit Shamanism and Sorcery (*Kroeber Anthropological Society Papers*, No. 25, 207–20). Anecdotes recorded during field-work over many years illustrate the powers ascribed to shamans. Although this type of belief has passed away, sorcery is still practised, as shown in a series of incidents described by the author.

Oschinsky, L. *Facial Flatness and Cheekbone Morphology in Arctic Mongoloids* (*Anthropologica*, IV (2), 1962 349–77). Among the Mongoloids of the Arctic, from Greenland to the Yenesei River and including, of course, the Eskimos, there is a high degree of facial flatness, more pronounced than in other Mongoloid groups. The author demonstrates this in a scholarly and convincing manner by charts and tables of measurements, supplemented by a number of attractive diagrams. Other associated facial traits appear to be stable, diagnostic Eskimo features.

Parker, Seymour. Eskimo Psychopathology in the Context of Eskimo Personality and Culture (*American Anthropologist*, LXIV (1, part 1), Feb., 1962, 76–96). In this scholarly study of Eskimo psychopathology, the author studies and analyses many aspects of social, religious, and cultural life, noting the effects of such practices on the patterns of behaviour shown under disturbed conditions. Significant differences between Eskimo and Ojibwa traits are noted.

———Motives in Eskimo and Ojibwa Mythology (*Ethnology*, I (4), Oct., 1962, 516–23). On the basis of an analysis of Ojibwa and Eskimo myths, the author concludes that the motives apparent in the myths are correlated with the conscious levels of thought, rather than with manifestations of the repressed subconscious.

Pendergast, James F. The Crystal Rock Site: An Early Onondaga-Oneida site in Eastern Ontario (*Pennsylvania Archaeologist*, XXXII (1), July, 1962, 21–34). Excavations on a badly eroded site near Prescott, Ontario, revealed Iroquoian sherds belonging to a period prior to the Roebuck period.

Pettus, Terry. Expedition to Russian America (*The Beaver*, winter, 1962, 8–19). This article is based on unpublished diaries of George R. Adams and Fred M. Smith, who visited Alaska in 1865–68. It contains considerable information on the Indians.

Phillips. R. A. J. Three Is Not a Crowd (*North*, IX (4), July–Aug., 1962, 1–11). In a thought-provoking essay, the author poses far-reaching problems in regard to the maintenance of elements of Eskimo culture, as part of our Canadian heritage.

Pohl, Frederick J. *Atlantic Crossings before Columbus.* New York: W. W. Norton, Inc. 1961. 315 p. The author endeavours to prove that the Atlantic was crossed many times before Columbus crossed it. As evidence, he uses legends and traditions, as well as speculative interpretations of the age of buildings and the meaning of inscriptions. It is probable that European mariners reached the New World in the thirteenth and fourteenth centuries, but the author weakens his argument by the inclusion of fantastic hypotheses, introduced in a completely unscientific manner.

Pritchard, Gordon B. Inuvik, Canada's New Arctic Town (*Polar Record,* XI (71), May, 1962, 145–54). When it was realized that there was no room for expansion to the town of Aklavik and that there was danger of flooding, it was decided to establish a new town at Inuvik, thirty-three miles away. The author describes some of the engineering problems involved, including permafrost, obtaining a labour force, and the bringing in of supplies.

———Inuvik—Canada's New Arctic Town (*Canadian Geographical Journal,* LXIV (6), June, 1962, 200–9). In this attractively written, illustrated article, the author describes some of the social and cultural changes involved in the re-establishment of Aklavik at the new site of Inuvik.

Quimby, George I. The Old Copper Culture and the Copper Eskimos, an Hypothesis (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* John M. Campbell, *ed.*, Dec., 1962, 76–9). The Old Copper Culture of Lake Superior was characterized by the mining of copper and the manufacture of tools by pounding out the cold metal. It flourished around 3000 B.C. and disappeared about 1000 B.C. with a warmer climate and an apparent northern movement of the miners. The author raises an interesting hypothesis that the similar use of copper by the Eskimos of Coronation Gulf may have been ultimately derived from the Old Copper miners of Lake Superior.

———The Pic River Site (*Lake Superior Copper and the Indians: Miscellaneous Studies of Great Lakes Prehistory,* James B. Griffin, *ed.*, Museum of Anthropology, University of Michigan, *Anthropological Papers,* No. 17, Ann Arbor, 1961, 83–9). A brief description is given of a site on the north shore of Lake Superior. The occurrence of native pottery and some trade goods indicates that it was occupied about 1700, probably by an Ojibwa group.

———A Year with a Chippewa Family, 1763–1764 (*Ethnohistory,* IX (3), summer, 1962, 217–39). Alexander Henry, who later became the well-known fur-trader and explorer, spent a year with an Ojibwa family as their adopted son. Quimby has extracted data from his journal, first published in 1809, to illustrate facets of Ojibwa life, of which Henry was a full participant in 1763. Although these pertain specifically to the Michigan Ojibwa, they are of relevance to Canadian anthropologists.

———, and James B. Griffin. Various Finds of Copper and Stone Artifacts in the Lake Superior Basin (*Lake Superior Copper and the Indians: Miscellaneous Studies of Great Lakes Prehistory,* James B. Griffin, *ed.*, Museum of Anthropology, University of Michigan, *Anthropological Papers,* No. 17, Ann Arbor, 1961, 103–17). The authors describe implements, found accidentally in various areas near Lake Superior, which belong to the Old Copper or associated cultures. Wherever possible the geological setting is discussed.

Riddiough, Norman. Treaty Time (*The Beaver,* summer, 1962, 10–13). A series of photographs, with expanded captions, of the payment of treaty money at Lac Seul, Ontario.

RIDLEY, FRANK. The Ancient Sites of Lake Abitibi (*Canadian Geographical Journal,* LXIV (3), March, 1962, 86–93). Archaeological investigations on Lake Abitibi, Ontario, revealed several sites, including one with stamped pottery, and another from a pre-ceramic horizon. The artifacts are described and illustrated.

———The Lake Superior Site at Michipicoten (*Pennsylvania Archaeologist,* XXXI (3–4), Dec., 1961, 131–47). Excavations at the mouth of the Michipicoten River, on the north shore of Lake Superior, revealed a stratified site with a long-continuing series of Iroquoian pottery, as well as many examples of cordmarked sherds, indicative of cultural influences from the south.

RITCHIE, WILLIAM A. The Antiquity of Pottery in the Northeast (*American Antiquity,* XXVII (4), April, 1962, 583–4). On the basis of a new method of radiocarbon dating, the age of Vinette I, the earliest pottery in the northeast, is approximately 1000 B.C.

———Northeastern Crossties with the Arctic (Arctic Institute of North America, Technical Paper, No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* JOHN M. CAMPBELL, *ed.*, Dec., 1962, 96–9). Although the possibility, or probability, of cultural interchanges between the Eskimos and prehistoric northeastern Indians has long been recognized, the most striking similarities are between Dorset artifacts and those of the Archaic. Carbon 14 dating indicates the Archaic to have been earlier than Dorset, hence the latter could not have been the source of the eastern Archaic.

———*A Typology and Nomenclature for New York Projectile Points.* (New York State Museum and Science Service, Bulletin No. 384.) Albany: The University of the State of New York. 1961. 119 p. This is an exhaustive and scholarly study of projectile points, classified into types. It is a masterly project in typology, which will undoubtedly be as valuable to Canadian archaeologists as to their American confrères.

ROBINSON, WILL, as told by WALTER WRIGHT. *Men of Medeek.* Kitimat, B.C.: The Northern Sentinel Press. 1962. 93 p. The late Walter Wright, Neas-D-Hok, was a Tsimshian chief who in 1936 related to the late Will Robinson his family history in the form of a long epic tale. Now published for the first time, it is an excellent example of the heraldic legends of the Tsimshian.

ROGERS, EDWARD S. *The Round Lake Ojibwa.* (University of Toronto, Royal Ontario Museum, Art and Archaeology Division, *Occasional Paper,* 5.) Toronto: Ontario Department of Lands and Forests, for the Royal Ontario Museum. 1962. x+289 p. This is a comprehensive and scholarly ethnological study of an isolated Ojibwa community of two hundred and fifty individuals living on Round Lake in northwestern Ontario. The author first summarizes the ecology and history of the area and then proceeds to the core of his subject, a detailed study of the life of the people in 1958–59, under the headings of social organization, economics, and religion. Each aspect is analysed closely and is presented both with field observations and statistical data. Though the culture is a blend of native and Euro-Canadian elements, it is not a simple mixture, but an idiosyncratic combination of both.

ROUSSEAU, JACQUES. La trame forestière de l'histoire canadienne (*Les Cahiers des Dix,* XXVI, 1961, 17–54). In this scholarly, literary essay the author describes the influence of the forest upon the lives of the Indians of Canada, as well as their utilization of products derived from trees.

RUBEL, ARTHUR J. Partnership and Wife-Exchange Among the Eskimo and Aleut of Northern North America (*Anthropological Papers of the University of Alaska,* X(1), Dec., 1961, 59–72). After summarizing the data on the occurrence of wife-lending among the Eskimos and Aleuts, the author postulates reasons for the practice in terms of an extension of social solidarity.

SCHULZ, VALERIE-VERA. *Haida.* Kassel: Friedrich Lometsch Verlag. 1962. [56 pages.] This is an attractively-illustrated, popular description for German readers of Northwest Coast totem-poles, with an introductory summary of Indian culture.

SLOBODIN, RICHARD. *Band Organization of the Peel River Kutchin.* (National Museum of Canada, Bulletin 179, Anthropological Series 55.) Ottawa: Queen's Printer, for the Department of Northern Affairs and National Resources. 1962. iv+97 p. The Peel River Kutchin are a northeastern branch of the Kutchin, an Athapaskan-speaking group of the Northwest Territories and the Yukon. The author analyses clearly the history of their contact with the white man, which he divides logically into periods. The theme of the volume is a thorough study of groups larger than the family; namely, (a) The Trapping Party, (b) The Local Group, (c) The Meat Camp, (d) The Fish Camp, (e) The (obsolete) Trading Party, (f) The Band. He describes the composition and functions of each, noting particularly their rising or falling significance at different historic periods.

SNOWDEN, DONALD S. Eskimo Fine Crafts (*North,* IX (1), Jan.–Feb., 1962, 1–10). In an interesting manner, the author describes and illustrates some of the fine craftsmanship being produced by modern Eskimos. He discusses the problems of marketing, including the difficulty of maintaining individualism in the face of the demand for mass production.

SPAULDING, ALBERT C. *Archaeological Investigations on Agattu, Aleutian Islands.* (Museum of Anthropology, University of Michigan, *Anthropological Papers,* No. 18.) Ann Arbor: University of Michigan, 1962. 79 p. Excavation of an early site in the western Aleutians disclosed a simple type of culture with poverty both in the numbers and types of tools. The tentative hypothesis advanced is that Agattu was marginal to a westward movement of population from Alaska.

STEFÁNSSON, VILHJÁLMUR. *My Life with the Eskimo.* New York: Collier Books. 1962. 447 p. Attention should be drawn to the republishing, in paperback, of this classic of Arctic travel and of life with the Eskimo, first printed in 1913.

STONE, ERIC. *Medicine Among the American Indians.* (*Clio Medica,* VII.) New York: Hafner Publishing Co. 1962. xv+139 p. First published in 1932, this is a reprint in a series of handbooks on medicine in different areas of the world. The author has brought together data from a wide range of anthropological sources and has succeeded in welding them into a logical summary, presented in literary style.

SUTTLES, WAYNE. Variation in Habitat and Culture on the Northwest Coast (*Akten des XXXIV Internationalen Amerikanistenkongresses, Wien, 1960,* Wien, 1962, 522–37). Based primarily on a detailed study of the Coast Salish, the author points out that the Northwest Coast is neither ecologically uniform, nor is food necessarily abundant at all seasons of the year. He postulates that differences in Coast Salish social structure are correlated with ecological differences, and suggests that a similar factor may account for variations elsewhere on the Northwest Coast.

SWADESH, MORRIS. Linguistic Relations Across Bering Strait (*American Anthropologist,* LXIV (6), Dec., 1962, 1262–91). After noting that there are no linguistic relationships between America and Asia of a closer time-depth than 4000 years, the author analyses intensively resemblances between Eskimo and Chukotan, a stock comprising two main divisions, Kamchadal and Chukchi-Koryak. He considers that there is a definite genetic relationship.

TAYLOR, WILLIAM E., JR. Comments on Nature and Origin of the Dorset Culture (*Problems of the Pleistocene and Arctic,* vol. 2, compiled by G. R. LOWTHER, McGill University Museums, McGill University, *Publications,* No. 2, Montreal, 1962, 56–67). In this well-documented and scholarly paper, the author describes the components, distribution, and age of the Dorset culture. He concludes that the Dorset people were Eskimos in physical characteristics and, probably, in language; their culture was coastal, with dependence on both sea and land mammals. He believes that it was derived largely from the distinctive pre-Dorset culture and was influenced to a certain extent by contact with inland peoples from the south.

———A Distinction Between Blades and Microblades in the American Arctic (*American Antiquity,* XXVII(3), Jan., 1962, 425–6). With the increase of archaeological work on early sites in the Arctic containing microlithic implements, it is desirable to establish a norm for blades and microblades. The width of 293 specimens from Mansel Island was plotted; a bimodal curve emerged, indicating that 11 mm is a significant measurement for differentiation.

———Pre-Dorset Occupations at Ivugivik in Northwestern Ungava (Arctic Institute of North America, Technical Paper No. XI, *Prehistoric Cultural Relations Between the Arctic and Temperate Zones of North America,* JOHN M. CAMPBELL, *ed.,* Dec., 1962, 80–91). Excavations at Ivugivik, near the northern tip of the Ungava Peninsula, Quebec, revealed material belonging to the Small-Tool complex, including a large number of burins and burin spalls. The specimens are carefully described and illustrated in the best scientific manner. The settlement appears to belong to a rather early Pre-Dorset period.

TOWNSEND, JOAN B., and SAM-JOE TOWNSEND. Archaeological Investigations at Pedro Bay, Alaska (*Anthropological Papers of the University of Alaska,* X(1), Dec., 1961, 25–58). A large site on Lake Iliamna in southwestern Alaska was shown to belong to the period of Russian contact, probably about the last half of the eighteenth century. The archaeological material recovered seems to belong to the Kachemak Bay III culture.

TREMBLAY, MARC-ADÉLARD. Le transfert culturel: Fondement et extension dans le processus d'acculturation (*Anthropologica,* IV (2), 1962, 293–320). On the basis of studies of cultural adjustment among Acadians in the Maritime Provinces, the author has worked out a theoretical frame of reference for measuring the degree of change.

TRIGGER, BRUCE GRAHAM. The Historic Location of the Hurons (*Ontario History,* LIV (2), June, 1962, 137–48). At the time of European contact, between 20,000 and 30,000 Hurons were living in a small area in what is now North Simcoe County. Such a large population in a restricted region was unknown elsewhere among the Iroquois. The author postulates two main reasons for these facts, namely, the richness of the soil and facilities for trade to the north, whereas he minimizes the importance of warfare. Trigger advances hypotheses for the origin of the Huron tribe. This is an important and scholarly article, which utilizes data from archaeology, ethno-history, and cultural anthropology, directed towards an ecological interpretation of settlement patterns.

———Trade and Tribal Warfare on the St. Lawrence in the Sixteenth Century (*Ethnohistory,* IX (3), summer, 1962, 240–56). In a scholarly essay, the author discusses cultural trends and historical movements among the Indians of the St. Lawrence valley in the sixteenth century. Cultural variations occurred in different areas, including extensive use of fish in the vicinity of Quebec. The kidnapping of Indians by Cartier aroused animosity and hindered French expansion. More important, perhaps, was the desire of the riverine Indians to serve as middlemen between the French on the one hand, and the Indians of the interior and of the north. Thus by 1600 there had developed an unstable condition throughout the whole area, a state of affairs similar to what was just beginning in the Hudson valley.

TRUDEL, MARCEL. Un nouvel inventaire du Saint-Laurent, 1603 (*Revue d'Histoire de l'Amérique française,* XVI(3), déc. 1962, 313–47). In a historical essay on the St. Lawrence valley at the beginning of the seventeenth century, the author comments upon the change from Algonkian to Iroquoian-speaking peoples that had taken place between the voyages of Cartier and of Champlain, and speculates upon the reasons.

Vallee, F. G. *Kabloona and Eskimo in the Central Keewatin.* (NCRC-62-2.) Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1962. vii+218 p. This is a broad picture of life at Baker Lake in 1959–60. The author makes no attempt to describe all aspects of culture but concentrates on relations between Eskimo and white man and on the changes this is producing. He gives a clear picture of the variations in the acceptance of new concepts, resulting in the emergence of two Eskimo classes with different amounts of assimilation.

——*Sociological Research in the Arctic.* (NCRC-62-8.) Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1962. 21 p. This publication consists of two essays on distinct, though related subjects. The first deals with research on working groups, their size, function, and recruitment among the Eskimos, with the possibility of using this theme for cross-cultural comparisons. The second essay is on the emergence of what appear to be the beginnings of status groups among the Baker Lake Eskimos.

VanStone, J. W. An Archaeological Collection from Somerset Island and Boothia Peninsula, N.W.T. (University of Toronto, Royal Ontario Museum, Art and Archaeology Division, *Occasional Paper,* 4, 1962, 1–63.) The author describes and analyses a collection of archaeological material from the north end of Boothia Peninsula and the southern part of Somerset Island. The specimens are largely from the surface or from graves; they were collected by Eskimos for L. A. Learmonth, who carefully recorded the site from which each came. A few artifacts belong to the Dorset culture, but most are of the Thule period and that of the modern Netsilik. Of considerable interest is the apparent blending of Thule and Netsilik types.

——*The Economy of a Frontier Community: A Preliminary Statement.* (NCRC-61-4.) Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1961. iv+34 p. This report is based on field-work in 1960 at the Chipeweyan village of Snowdrift on the shore of Great Slave Lake, N.W.T. The author describes life in the settlement, the annual cycle, and the economic activities of the people. Planned as part of a broad study of culture change among the Athapaskan-speaking Indians of the Northwest Territories, it is a valuable, objective record of the way of life in this pioneer village of 150 individuals living just south of the treeline.

——Notes on Nineteenth Century Trade in the Kotzebue Sound Area, Alaska (*Arctic Anthropology,* I (1), 1962, 126–8). Hotham Inlet on Kotzebue Sound was a meeting place and centre for inland and coastal Eskimos in the nineteenth century. With the coming of whalers, it became a centre for trade between white and native. The author quotes from an unpublished manuscript, giving some information on the goods exchanged and their prices.

——*Point Hope: An Eskimo Village in Transition.* Seattle: University of Washington Press, for the American Ethnological Society. 1962. 177 p. This is a comprehensive description of Point Hope, an Eskimo village on the northwest coast of Alaska. It is based on a year's residence in the settlement, with considerable participation in the activities of the inhabitants; the data are presented in scholarly fashion, well organized and well written. After a preliminary chapter on earlier historical references to Point Hope, the author deals with life as it was in 1955–56, including economic pursuits, community organization, social structure, individual personality traits, and religious beliefs.

The influence of aboriginal culture on the present is well recognized and documented, but the emphasis is on contemporary life, not a reconstruction of the past. A thought-provoking chapter suggests what future trends may be expected. This is an excellent example of an anthropological study of a modern community.

VOEGELIN, C. F. Culture Area: Parallel with Typological Homogeneity and Heterogeneity in Respect to North American Language Families (*Kroeber Anthropological Society Papers,* No. 25, fall, 1961, 163–80). In a scholarly and comprehensive manner the author considers the languages spoken in the different culture areas of North America, noting particularly diversity or similarity, and considering theoretical implications.

WEDEL, WALDO R. *Prehistoric Man on the Great Plains.* Norman; University of Oklahoma Press. 1961. xviii+355 p. This is a scholarly summary of the archaeology of the Plains. It is a technical volume, written lucidly, and is well suited for use as a university text.

WEN, CH'UNG-I. Bird-Ancestor Legends of Northeast Asia, Northwest America and the Pacific (*Bulletin of the Institute of Ethnology, Academia Sinica,* XII, autumn, 1961, 75–106). Legends regarding bird ancestors occur widely on both sides of the north and central Pacific area. They appear to be of three types, each of which is characteristic of one region; namely, (a) from Shantung to Korea and Siberia; (b) the Northwest Coast of America; (c) Polynesia and Indonesia. An English summary is appended to this article in Chinese.

WHEELER, ROBERT C. Diving into the Past (*Canadian Geographical Journal,* LXV (2), Aug., 1962, 38–49). This is a popular and well-illustrated description of kettles and other trade goods recovered by skin-divers on the Grand Portage route along the Minnesota-Ontario border. These articles were obviously from canoes lost in the rapids during the eighteenth and early nineteenth centuries.

WILLMOTT, WILLIAM E. *The Eskimo Community at Port Harrison, P.Q.* (NCRC–61–1.) Ottawa: Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre. 1961. viii+197 p. Port Harrison, on the east side of Hudson Bay, has been an important Eskimo settlement for centuries. In 1958 it had a native population of three hundred and forty individuals who comprised two relatively distinct groups, one of which depended on hunting and trapping, and one on wage employment in the village. The author describes the economy and way of life of each group, with particular reference to the varying pattern of acculturation.

WOODBURY, NATHALIE F. S. Paperbound Books in Anthropology in Print in the U.S.A., autumn 1961 (*Current Anthropology,* III (1), Feb., 1962, 107–12). Attention should be drawn to this extensive list of paperbacks (largely reprints) classified according to subject; it includes the date of original publication.

WOODBURY, RICHARD B., *ed. Abstracts of New World Archaeology, Vol. II, 1960.* Salt Lake City: University of Utah Press, for the Society for American Archaeology. 1961. 184 p. This annual publication is proving to be a valuable aid to research. It is a comprehensive listing of current publications, arranged geographically; a brief description of contents is given for each item.

WRIGHT, J. V. A Distributional Study of Some Archaic Traits in Southern Ontario (Canada, Department of Northern Affairs and National Resources, National Museum of Canada, Bulletin 180, *Contributions to Anthropology, 1960, part 1,* Ottawa, 1962, 124–42). On the basis of museum specimens, the author has studied seven characteristic tools from the northeastern Archaic period, dividing them into sub-categories and plotting the distribution of each. He concludes that this archaeological period was well represented in Ontario, with regional specializations and a significant division east and west of the water route between Toronto and Georgian Bay.

WUTTUNEE, WILLIAM I. C. Thirst Dance of the Crees (*The Beaver,* winter, 1962, 20–3). A brief illustrated description of a Cree ritual that is still performed near Battleford.

YATSUSHIRO, TOSHIO. The Changing Eskimo (*The Beaver,* summer, 1962, 19–26). This is a thought-provoking description of wage employment and its effects on the Eskimos of Frobisher, Baffin Island.

YEARSLEY, GORDON. The Artists of Povungnituk (*North,* IX (1), Jan.–Feb., 1962, 28–9). A brief note on Eskimo prints from Povungnituk.

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